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ABSTRACT

This book is based on findings of a research project that dealt specifically with issues in public health work and indirectly with schools of public health, their role in mental health training, and their relevance to professional activities as perceived by those professional public health workers who participated in the survey. Underpinning the inquiry were the notions that: (1) mental health concepts, techniques, and practices enrich and facilitate the operation and acceptance of public health programs and enhance the effectiveness of public health workers; (2) mental health considerations should be an essential aspect of the training programs provided by schools of public health; and (3) schools of public health are appropriate educational settings for the development of mental health specialists. (HS)

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MENTAL HEALTH TRAINING AND PUBLIC HEALTH MANPOWER

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National Institute of Mental Health

MENTAL
HEALTH
TRAINING
AND
PUBLIC
HEALTH
MANPOWER

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PREFACE

This book is based on findings of a research project about professional public health workers. The findings are derived from the 3,115 replies to a questionnaire mailed in August–October 1968 to those American citizens who had received a master's degree from one of 11 schools of public health in the United States during the period 1961–67. The research project dealt specifically with issues in public health work, and indirectly with schools of public health, their role in mental health training, and their relevance to professional activities as perceived by those professional public health workers who participated in the survey.

Underpinning the inquiry were the notions: (1) That mental health concepts, techniques, and practices enrich and facilitate the operation and acceptance of public health programs and enhance the effectiveness of public health workers; (2) that mental health considerations should be an essential aspect of the training programs provided by schools of public health; and (3) that in view of the magnitude of mental health problems and of the concerns of public health with the overall health of communities and populations, schools of public health are also appropriate educational settings for the development of mental health specialists. Thus, the focus of the inquiry fell on studying how professional public health workers were trained, the kinds of mental health training that they obtained, and their views as to the pertinence of this training in the context of their occupational settings and jobs.

The findings presented in this book are related to larger issues of the American health crisis, viz, health manpower, health expenditures, and the organization and delivery of health services, and to the place of the continuing controversy between the fields of public health and mental health to this crisis. The increased emphasis on health care with a component of prevention, protection, and health maintenance as a part of the scope of public health and the trends toward community mental health, comprehensive health planning, prepayment programs, and comprehensive health services systems bring into closer urgency the need to clarify the interfaces and areas of common or complementary concerns between public health and mental health. Such clarification is a first step toward conceiving and implementing more effective training programs and organizing services designed for meeting with efficiency the health needs of all population groups throughout the country. This volume is an attempt in that direction.

The specific background of the research itself can best be understood within the framework of a broad administrative program review plan at the National Institute of Mental Health (NIMH) concerned with mental health training in schools of public health which had as its objectives—

(1) to review and appraise the mental health training grant program to schools of public health whose primary source of support has been Federal funds obtained from the NIMH;

(2) to identify the parameters of these mental health training programs with particular concern as to their objectives, resources, content, methods, and progress;

(3) to increase the visibility and relevance of public health-mental health concepts in training efforts;

(4) to create a forum for the discussion of mental health training issues among deans of schools of public health and those public health faculty members whose areas of specialization impinge on mental health concerns;

(5) to develop curricular materials which would be of value in promoting mental health concepts in schools of public health; and

(6) to obtain systematic data about graduates of schools of public health and how they viewed their public health-mental health training so as to add this dimension for mental health program development in the schools of public health and in continuing education programs.

The need for this research emerged while the first-named author had both administrative and program development responsibilities for NIMH training grants to the schools of public health from 1963 to 1969. In reviewing this program, consistent baseline information was lacking in two crucial areas: The exposure to mental health considerations received by students, and the kinds of public health-mental health role models that they had acquired in their graduate training. These two areas, although central to training concerns, were also deemed crucial to future professional activities. What are the impacts of the philosophical and practical differences between the public health and mental health fields on the socialization of professional public health workers who would be able and willing to bridge the gap between both fields and carry with them a unified approach into their professional performance? What professional models are available for such graduates throughout their training? The extent of these problems, in turn, appeared to obscure approaches as to how schools of public health could contribute optimally to the national mental health effort. Furthermore, during the period covered by the study, while continuing to attend to the process of role and function redefinition, schools of public health, like other institutions of higher education, were faced with rapidly expanding knowledge and technology, vast social changes, and new and increasing expectations. From the standpoint of program planning, analysis, and review it was clear that research was needed to yield a data base that might serve for program guidance as well as to stimulate future research into health manpower and training evaluation by the schools of public health themselves. As a result, the study reported in this book was undertaken.

This volume has been organized into six sections. Part I (chs. 1–4) is concerned primarily with presenting the contextual background for the research findings. Part II (chs. 5–6) describes the characteristics of graduates from schools of public health who participated in this study. Part III (chs. 7–9) presents the appraisals which respondents made about their mental health training in a school of public health and its relevance to their current work. Part IV (chs. 10–11) presents the respondents' views on the relationships of mental health to public health, and the place of mental health in public health. Part V (ch. 12) discusses the findings on needs for further training and improvement of mental health training programs. Part VI (ch. 13) contains a summary of the research findings with implications for training, service, and curriculum development.

To make clearer the presentation of certain items of information, selected tables are contained in the text; other cited tables and references are in the appendixes.

The authors hope that these findings will be of interest and concern to mental health and public health leaders, to educators in the health professions, to health planners, and to public health practitioners who are involved in developing continuing education activities. Mental health specialists who are concerned with extending their effectiveness in their consultative and training functions with public health workers and others in the community; e.g., police, judges, clergy, educators, and advocates, may be particularly interested in the perceptions of public health workers to mental health and its relevance to their work. Also, sociologists and other behavioral scientists hopefully will view this volume as a contribution to the sociology of the professions. Lastly, the authors wish to contribute to a better understanding of the public health profession, professional public health workers, the mental health professions, and the relevance of mental health in public health work.

Many people shared the investigators' belief in the importance of this study and thus provided sustained encouragement and assistance to make it a reality. Without the cooperation of the deans of the 11 schools of publc health this study could not have been undertaken. Profound appreciation goes to the respondents who took the time to complete the questionnaire and thereby expressed their interest in the future of public health-mental health training and practice.

Acknowledgment is extended to several persons at the National Institute of Mental Health: Dr. Stanley F. Yolles, former Director, who authorized the study; Dr. Raymond J. Balester who while Acting Director, Division of Manpower and Training Programs was always available for helpful comment and facilitated the required administrative support; Dr. Thomas F. Plaut, Associate Director for Program Coordination who reviewed the final manuscript; Mrs. Jean Santucci who provided unhesitantly, efficient and thoughtful assistance in typing drafts, proofreading, and handling the secretarial aspects of the study; and Mrs. Margaret C. Parsons who did the layout for the survey questionnaire.

The data gathering and processing aspects of this study were conducted under a contract between NIMH and the Professional Examination Service, American Public Health Association. The close working relationship established with Mrs. Ruth S. Shaper and her staff from the outset of the study, particularly with Dr. Norman Stander, deserves special mention.

Appreciation is also expressed to Dr. James L. Troupin, former Director of Professional Education, American Public Health Association, who shared with the investigators his extensive knowledge of the schools of public health, commented on study procedures, and read portions of the manuscript.

Dr. Andrew D. Hunt, Jr., Dean of the College of Human Medicine, Michigan State University is also thanked for authorizing time to complete work on this manuscript.

Early in the planning of the study the investigators had the benefits of comments about the proposed work from the following members of the Advisory Committee of the National Conference on Mental Health in Public Health Training: Drs. Viola W. Bernard, Columbia University School of Public Health and Administrative Medicine; Edward M. Cohart, Yale University Department of Epidemiology and Public Health; Paul V. Lemkau, Johns Hopkins University

School of Hygiene and Public Health; Philip Margolis, University of Michigan School of Medicine; and Myron E. Wegman, University of Michigan School of Public Health. Their assistance is also acknowledged.

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PART I

BACKGROUND OF THE RESEARCH PROJECT

INTRODUCTION

CHAPTER 1

SCHOOLS of public health train professional workers for a wide variety of roles and tasks in the health field. These workers are unique with respect to their approaches to health improvement and protection measures for communities and population groups and for their focus on prevention and containment of disease on a large-scale basis. Although graduates from schools of public health constitute a relatively small part of the total health manpower labor force in the United States, they have key roles in the health field since many health policymakers in the public sector—in Federal, State, local, and county governments—have been trained or have experience in the field of public health and are exposed to the philosophy and approaches of this field.

Of increasing concern to the public health field has been the magnitude of mental disorders in the general population of the country and the potential roles for public health workers to carry on preventive and promotional activities in this area as well as to extend their concerns to the rehabilitation of the mentally ill who have returned to their communities after hospitalization. Working toward the realization of this objective has not been a simple academic or administrative task. This process has been unfolding in periods of rapid growth and differentiation for both public health and mental health. Both fields have been experiencing increasing demands for manpower and services, the introduction of new technologies, explosions of scientific knowledge, and vast social changes. Although a full discussion of these issues would be beyond the scope of this volume, the particular emphasis of this chapter is to present a sketch of the larger contexts of public health and mental health professional manpower, and an identification of divergences and junctures at which public health manpower training and practice find common or complementary purpose and method with mental health work.

HEALTH AND MENTAL HEALTH MANPOWER

Health manpower today is developed in a variety of educational and service settings ranging from universities and health professional schools to community colleges, vocational high schools, labor unions, special training centers, hospitals, and health and mental health agencies. The Armed Forces also have played an important role in training health manpower, and currently an effort is being made to recruit such personnel into civilian health careers following their military experience.

The health field employed some 3.7 million persons in 1966, being the third largest industry in the United States in terms of number of workers. An additional 1.6 million persons or an increase of 45.7 percent in employment is expected by 1975.[1] During the period 1966–75, a monthly average of 8,300 new health workers are projected to enter the field.[2] Whether the country is able to meet such expectations or not the demands for increased health manpower and for changes in methods of planning, organizing, financing, and approaching health problems all will affect the training and development of public health and mental health administrators, clinicians, educators, planners, and research specialists. Yet, the problems are by far more complex than one of increasing numbers. In the national efforts to increase health manpower and to improve its utilization, major changes in the content, direction, and methods of training will be required. The opinion is currently held that even if the manpower requirements projected during the 1960's were met, these would no longer suffice given the unprecedented rise in demand for services and inflationary trends resulting largely from such programs as Medicare and Medicaid, unless measures and incentives are instituted to increase the capacity of health services, improve their organization and utilization, and management of health manpower is carried out more efficiently. The preparation of others to be trained in shorter time to undertake many roles now performed by highly experienced and long-trained health manpower is being recognized as crucial, and a variety of programs have emerged already to produce such personnel and to facilitate their entry in the field. Undoubtedly these pressures for expansion of health personnel, for new directions in the use of manpower, and for reorganization in the delivery of health services will have an impact on the future direction of schools of public health as well as on other health professional training. Redefinition of philosophies, reorganization of services, and creation of new professional roles and functions are required.

Manpower and other problems in the mental health field, furthermore, have been singled out for special attention by the mental health professions, associations, and interest groups. These efforts were intensified by the development of the NIMH as a locus for both expanding the role of the Federal Government in resource development and for stimulating the expansion of other governmental and nongovernmental actions in the field. Thus, the growth of mental health personnel in the four core professions of psychiatry, psychology, social work, and nursing increased from 44,200 to 63,947 or by 44.0 percent between 1960 and 1965—that is, more than twice the percent increase in the five major health professions combined—medicine, dentistry, nursing, environmental health, and health research.[3] In spite of the increases experienced, however, manpower shortages in mental health have continued. "The baseline was so low," according to NIMH, "that the increases have not yet been sufficient to eradicate the gap" between mental health manpower needs and the number of persons presently working in this field.[4]

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[1] U.S. Department of Labor, Bureau of Labor Statistics, Health Manpower 1966–75, Report No. 323. (See app. A, table 1, p. 239, "Estimated Employment in the Medical and Health Service Industry by Selected Occupation, 1966 and 1975 Projections." See also "Health Care in America," hearings before the Subcommittee on Executive Reorganization of the Committee on Government Operations, U.S. Senate, 90th Cong., Second Sess., pt. II, Apr. 26; July 9, 10, and 11, 1968, Washington, D.C., Government Printing Office, 1968, pp. 485 and 652.

[2] U.S. Department of Health, Education, and Welfare, "Job Development and Training for Workers in Health Services," *Indicators*, August 1966, p. 4.

The training programs for developing public health workers who can use mental health concepts and practices in their work or for training mental health specialists in schools of public health have been part of the effort to close the gap both by opening up different settings as new sources of mental health manpower and for producing the capacity and skills in public health manpower to include within their scope the mental health dimensions of public health work. The appropriate utilization of such personnel is not only a matter of training. It would also depend on the capacity of the public health and the mental health professions to perform differently and on the receptivity and acceptance of such changes by the public as well. In terms of social policy, two issues impinge on this receptivity: (1) Who (what kinds of personnel) does society consider to be responsible for leadership and practice in mental health work? and (2) What activities are entailed and expected from the conduct of those responsibilities? The overlaps of responsibility and the stakes of the various professions and administrative agencies involved have generated conflicts which have continued to engage many from both mental health and public health while others have worked to negotiate operational relationships addressed to soothe professional and interagency rivalries and to bridge the underlying conceptual gaps between these two fields.

MENTAL HEALTH AND PUBLIC HEALTH AS DISTINCT FIELDS OF ACTIVITY

Historically, mental health and public health have been and still comprise distinct areas of endeavor, each with its own focal problems and interests, conceptions, personnel, and methods of organizing and delivering services. The health requirements of communities and populations today, however, call for viable interrelations between these two fields to enhance their capacity to deal with the major health problems confronting people. With the rest of the health field, public health and mental health face the social urgency for modernizing the organization and methods for the delivery of comprehensive personal health care, providing methods of financing which will yield the greatest return to health dollar expenditures, assuring quality health services for all citizens as a right, and improving the quality of the environment to reduce physical, psychological, and social hazards which increase disease and reduce the span of life. In facing up to these social goals and objectives, change must occur in both the mental health and the public health fields as well as in other areas of public concern which impinge on human health.

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[3] U.S. Department of Health, Education, and Welfare, Division of Manpower and Training Programs, NIMH, "Mental Health Training and Manpower, 1968–1972," Washington, D.C., Government Printing Office, 1967, p. 2.

[4] Ibid

Linkages between both fields have been difficult to achieve, both in training and in practice. There are as yet unresolved conceptual and operational problems involved in bringing together the two endeavors since traditional, historical, and practical factors make each field responsible for a vast domain of expertise, and for separate investments in professional, administrative, and organizational capacities. The methods of public funding by categories of disease have further stimulated this separation. These factors have tended to reinforce the respective distinctiveness of public health and mental health programs at one extreme by promoting their separateness in goals, purposes and methods, and on the other, ironically, by negating their distinctiveness.

On this latter theme Yolles has written that a belief that the two fields are synonymous or that mental health is an offshoot of public health arises from the erroneous tendency to equate public health with the total universe of health:

> But public health is not the universe of health, or synonymous with health. It is, rather one aspect of the broad scope of health, which also includes clinical medicine and the basic medical sciences and is beginning to include prevention and intervention in terms of the whole range of man's behavior in his total living context.[5]

Yolles assessed this reductionism as "a mere play on words, without substance or meaning."[6] In examining the related assumption that "public health is mental health and mental health is public health" he further added:

> Any truth that may lie in this aphorism results from the implementation of programs and activities in which mental health and public health seem to blend, rather than from any presumed 'given' that each field is inextricably interwoven and based each on the other.[7]

As the health field addresses itself more to the positive qualities of health and its maintenance and improvement rather than continuing to emphasize curative and treatment functions as separate activities, new opportunities for bridging the gaps now existing between public health and mental health would appear more feasible. The accent on comprehensive health planning and comprehensive health services for populations, the increasing national interest in health insurance coverage and prepayment programs, and the emphasis on broadening the overall base of health manpower would appear to support and provide greater thrust toward increasing the integration of now largely departmentalized and fragmented health programs including those in public health and in mental health agencies. Furthermore, the movement of health consumers, particularly among the poor, has emerged as an additional force working in similar directions. The barriers between both fields although perhaps lowered have not yet been removed. The historical antecedents of both fields serve to clarify the directions which tend to set them apart and the currents which have brought them closer toward common areas of action.

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[5] Yolles, S. F., "Social Policy and the Mentally Ill," address presented at the 20th Mental Hospital Institute, American Psychiatric Association, Washington, D.C., Oct. 2, 1968, mimeographed, p. 17.

[6] Yolles, S. F., "Public Health and Mental Health: Some Thoughts on the Nature of the Relationship," in Goldston, S. E. (ed.), *Proceedings of the National Conference on Mental Health in Public Health Training*, Public Health Service Publication No. 1899, Washington, D.C., Government Printing Office, 1969, pp. 6–7.

[7] Ibid.

HISTORICAL ANTECEDENTS

For over 100 years efforts have been made to involve public health in certain aspects of mental health work although the social institutions for attending to the public health of communities have largely remained separate and distinct from those ministering to the mentally disordered. These separate frameworks have been reinforced both by societal views of the mentally ill and by the professional competencies deemed necessary to deal with the problems posed by public health on the one hand and by mental disorders on the other. Although mental health work is more encompassing than activities and programs for the mentally ill, the care and treatment of mental illness and other emotional disorders have been and continue to be its major concern.

From colonial days to the middle of the 19th century the mentally ill, the poor, and criminals were accorded similar place in society. The mentally ill were jailed or placed in almshouses supported by local governments, or were just hidden in their homes by their families. Only a few State and private custodial institutions were developed. The "moral treatment" reforms initiated by Pinel in France and Tuke in England also influenced the patterns of care to be provided to the mentally ill. By the end of the 19th century, as a result of Dorothea Dix's reformist crusade, responsibility for care of the mentally ill was transferred to State governments.[8] As a result, large State mental hospitals often isolated from the expanding industrial and urban centers and from community life were built.

In the first decades of the 20th century, however, innovations related to present-day community mental health practice began to be initiated although these were only slowly introduced and extended. These innovations departed from "moral treatment" concepts into psychobiological concerns which had a therapeutic direction. They included the establishment of psychiatric wards in general hospitals, the introduction of social work activities in psychiatric care, the initiation of outpatient and after-care programs, and the founding of psychopathic hospitals for examination and precare of patients prior to commitment to mental hospitals. Supporting the therapeutic concerns for the mentally ill was the emerging mental hygiene movement founded by Clifford Beers. In 1909 Freud made his first visit to the United States; subsequently his theories, his students, and the psychoanalytic movement began to have major impacts on the evolution of American psychiatry. In fact, many of the leaders of the psychoanalytic movement were European exiles who had come for political asylum to the United States. Still, however, care for the mentally ill continued to be primarily a responsibility of State government, and admissions to State hospitals and determination of mental illness continued to be largely a judicial matter with care having a custodial emphasis. Patients had little opportunity for being released to their communities and supporting community treatment and rehabilitative services were sadly lacking.

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[8] Dain, H., *Concepts of Insanity in the United States, 1789–1865*, New Brunswick: Rutgers University Press, 1964, 304 pp.

In the 1950's, one-half of all hospital beds in the United States were in State mental hospitals. As the extent of the problems of mental ill-health and the human and economic costs to society were publicized, mental illness came to be described in the professional literature as "a major public health problem." Emerging community mental health programs, although largely oriented toward the treatment of persons on an individual basis, began to adopt certain concepts and procedures common to public health administration and practice. The concepts of prevalence and incidence rates derived from epidemiology became commonly accepted, and the vocabularies of prevention and health education also made their way into the field.[9] This development has been characterized as the third "psychiatric revolution"—community psychiatry which is in effect a development from psychoanalysis and the social and behavioral sciences, particularly the anthropological theories related to personality and culture developed by Ruth Benedict, Edward Sapir, and Margaret Mead. Bellack notes that advances in public health, in epidemiology, and other related fields have also contributed to the development of community psychiatry.[10]

Slowly, also, but over a much greater timespan, public health has also been moving its interest toward mental health. Traditionally, public health has concerned itself with the control of major diseases affecting whole communities and population groups. During the 19th century its emphasis was on environmental sanitation and the control of communicable diseases with the objectives of preventing their inception, halting their course, and reducing their impact. These objectives required surveillance and early identification of cases, the development of measures to determine the magnitude and vulnerability of populations, and the development of service programs addressed to control the agents of disease. With the increase of chronic disorders in the population and the realization of the emotional aspects of health and illness, mental health considerations have thus become a logical concern for public health.

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[9] Bellack, L. (ed.), *Handbook of Community Psychiatry and Community Mental Health*, New York: Grune & Stratton, 1964, pp. 1–3.

[10] Ibid.

The classic Shattuck *Report* of 1850 had called attention to a role for public health in mental health by recommending that a board of health be designated in Massachusetts and that one duty of such a board would be to determine whether mentally ill persons should be institutionalized.[11] This recommendation was not adopted at the time, but over 20 years hence, Henry Putnam Stearns, following the same principle, urged State boards of health to appoint physicians to study and report the conditions which lead to mental disorders.[12]

In the 1920's the superintendent of the Boston State Hospital called attention to the New York plan which empowered health officers, among others, to hospitalize the mentally ill. In addition, Rosen notes that between 1915 and 1935 public health agencies were dealing with certain mental health matters chiefly in relation to maternal and infant care.[13] During these years mental health problems however were largely peripheral to public health concerns, but of emerging interest to a point at which "there were intimations that public health officials would do well to broaden their concern with mental health." [14] Illustrative of these attempts was the program established in 1916 by the Detroit Department of Health to integrate mental hygiene instruction into the staff education of public health nurses.[15]

One major effort toward identifying points of convergence between public health and mental health was a short-term training institute held in Berkeley, Calif. in June 1948, under the sponsorship of the Commonwealth Fund and the California State Department of Health. Through this institute a group of 30 city and county health officers came together with a faculty composed of eight psychiatrists, three pediatricians with psychiatric training, and five public health leaders for a 2-week workshop to explore and identify the relationships between mental health and public health work. As reported in the volume *Public Health Is People,* this training experience led both participating faculty and public health officers to the realization that mental health factors intimately affect the health department in all its parts and relationships.[16] Jules Coleman, one of the psychiatrists who served on the institute faculty, commented on its major emphases:

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[11] Rosen, G. (ed.), "Public Health and Mental Health: Converging Trends and Emerging Issues," in *Mental Health Teaching in Schools of Public Health,* Association of Schools of Public Health, Columbia University, 1961, p. 7.

[12] Ibid., p. 54.

[13] Ibid., p. 54.

[14] Ibid.

[15] Jefferies, B., and Burke, M., "Mental Health in a City Health Department," *American Journal of Public Health,* 44: 1038, August 1954.

[16] Ginsburg, E. L., *Public Health Is People,* Cambridge: Harvard University Press, 1950, 241 pp.

> The central idea was that public health served large segments of the population in promoting health and in preventing disease and that it might make an important mental health contribution through its own services by incorporating psychiatric concepts and procedures in relation to such problems as the emotional components of illness, principles of child rearing, public education, public relations, health interviewing, and the intragroup tensions of the public health staff itself.[17]

Periodically over the past 20 years the public health literature has contained articles on mental health functions and responsibilities of local health departments. Preventive mental hygiene methods were specifically utilized in the child health conferences of the Baltimore Health Department in 1949,[18] introducing anticipatory guidance, a technique concerned with prognosis of events to be expected, which in the 1960's was to become a prominent tool in Peace Corps training programs. In the late 1940's the Attitude Study Project introduced mental health concepts into the daily activities of the Kips Bay Child Health Station staff in New York.[19] In 1957, Hanlon pointed out that "a local health department has the same responsibility for the mental health of a given community as it does for the community's physical health," particularly with respect to early casefinding and prevention.[20] That same year, Norton et al. defined areas for the conduct of mental health roles for health officers, indicating that through conferences with psychiatrists, workshops, and inservice training, the departments of health can assume mental health responsibilities.[21] In 1957 also, Lemkau cited the following mental health-related activities in which public health personnel could be involved productively:

> laboratory services for the diagnosis of central nervous system syphilis, the determination of bromide levels, and the estimation of lead content in blood or other tissue; biostatistical services to obtain data on the incidence and prevalence of hospitalized behavior disturbances; means for sanitary engineering staff to cope with potential litigious personalities; maternal health and prenatal clinics to deal with the prevention of complications of brain damage as well as behavioral health; involvement of school health personnel in mental health problems; and concern

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[17] Coleman, J., "Relations Between Mental Health and Public Health," *American Journal of Public Health*, 46: 805, July 1956.

[18] Stine, O. C., "Content and Method of Health Supervision by Physicians in Child Health Conferences in Baltimore, 1959," *American Journal of Public Health*, 52: 1858–1865, November 1962.

[19] Belkin, M., Suchman, E. A., Levinson, B., and Jacobziner, H. "Mental Health Training Program for the Child Health Conference," *American Journal of Public Health*, 55: 1046–1056, July 1965.

[20] Hanlon, J. G., "The Role of the Mental Health Service in the Local Health Department," *Public Health Reports*, 72: 1094, December 1957.

[21] Norton, J. W. R., Applewhite, C. C., and Howell, R. W., "Efforts To Define and Help the Health Officer To Fulfill His Role in Mental Health Programs," *American Journal of Public Health*, 47: 812–818, July 1957.

with the mental health implications of institutional licensing for such facilities as nursery schools, day-care centers, and nursing homes.[22]

In 1962 the U.S. Surgeon General's Ad Hoc Committee on Mental Health Activities called attention to the areas in which public health personnel could participate and contribute to the field of mental health. The committee earmarked the following areas:

(1) In primary prevention through health information and education of the general public;

(2) In early case finding through observation and identification of behavior in interpersonal relationships in child health clinics, school health and industrial health services, and environmental health practices;

(3) In secondary prevention by provision of supportive and/or referral services to individuals and families during crisis periods;

(4) Through cooperative planning for adequate comprehensive mental health program activity;

(5) Through provision for an encouragement of training activities for mental health and public health personnel;

(6) Through epidemiological and program research and surveys needed to identify 'target' populations, and improve preventive, therapeutic, and rehabilitative practices.[23]

Organizational approaches toward bringing a functional interrelation between mental health and other health programs have been taking place at every level of government. Over the past decades also, two major trends have been set into motion regarding the administrative structures for both public health and mental health services at the State and local levels. One trend has been toward merging mental health and public health agencies either as divisions of a more encompassing health agency or as parts of other types of agencies such as welfare. The opposite trend has been toward establishing separate and distinct departments of mental health. These arrangements have also affected relationships between Government and the private sector.

Whatever the administrative arrangements, program linkages and continued staff cooperation have not always succeeded. Yolles has pointed out that even where public health and mental health services are organizationally and administratively linked together, there may be a "lack of cooperation between practitioners in these two groups in implementing programs which are of mutual concern."[24] Why does this condition of "separateness" continue to exist?

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[22] Lemkau, P. V., "Mental Health Tasks in General Health Programs," *American Journal of Public Health*, 47: 797–801, July 1957.

[23] U.S. Department of Health, Education, and Welfare, Report of the Surgeon General's Ad Hoc Committee on Mental Health Activities, "Mental Health Activities and the Development of Comprehensive Health Programs in the Community," Public Health Service Publication No. 995, Washington, D.C., Government Printing Office, 1962, p. 8.

[24] Yolles, S. F., "Public Health and Mental Health: Some Thoughts on the Nature of the Relationship," in Goldston, S. E. (ed.), *Proceedings of the National Conference on Mental Health in Public Health Training*, Public Health Service Publication No. 1899, Washington, D.C., Government Printing Office, 1969, p. 7.

One may point first to the primary professional orientation of the practitioners of each of these fields. While public health workers have traditionally been community, group, and prevention oriented, mental health professionals still primarily receive their basic training within a framework which is individually and clinically oriented. Second, few mental health professional workers are trained in or are exposed to public health concepts and thus are not able to seize opportunities to work productively with public health people or to employ public health approaches in their programs. Third, when a mental health service is administratively part of a local health department, neither the mental health staff nor the health officer may perceive that such staff could effectively contribute to public health programs or vice versa. Where mental health staff have been engaged by health departments in situations where no organized mental health service exists, such appointments have usually been part time and the activities pursued most frequently relate to mental health consultation with public health nurses to the exclusion of other health department staff. Another factor to be considered is that the higher salary scales paid to mental health professionals for clinical work deter them from seeking public health work. Furthermore, the kind of mental health training received by public health workers or the absence thereof may be an additional contributing factor. If public health workers are not adequately trained in mental health, there would appear to be little room for expectancies that mental health workers can be of assistance in, or that mental health concepts have applicability to, public health work.

Yolles has advanced the argument that a key reason for the distance between mental health and public health "lies heavily in the absence of a conceptual basis for mental health training in the schools of public health * * *" and that "the existing psychiatric, psychological, and psychoanalytic models are no longer appropriate for teaching mental health in schools of public health." [25] He continues:

> The ambiguous and even amorphous status of mental health in schools of public health today is a reflection of the ambiguities of the status and relationships of mental health to public health on one hand and to psychiatry, psychology, and psychoanalytic thought on the other * * * In short, mental health training for students in schools of public health cannot mirror the content or curricula provided for the basic training of mental health specialists in psychiatry, psychology, and social work. If a new model is needed for mental health training in schools of public health, and I argue that it is needed, then such a model can only evolve through the integration of mental health concepts into the basic public health sub-specialty fields * * * [26]

In the light of this statement, it may be further argued that schools of public health being the basic institution for the socialization of public health professionals have a major leadership role in developing what would amount to the integration of mental health concepts within the total spectrum of public health practice.

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[25] Ibid.

[26] Ibid., pp. 7-8.

TOWARD INTERFACES BETWEEN PUBLIC HEALTH AND MENTAL HEALTH

Modern public health preceded the emergence of modern community mental health. Indeed, as indicated in the previous section, the historical antecedents of the two fields have generally followed different lines of development. Nonetheless, at present there is no open disagreement or conflict between community mental health and public health with respect to such broad concerns as early casefinding, the utilization of epidemiological approaches and techniques, and applications of public health-social science in research and evaluation. Beyond these common areas, there remain more distinct interests, approaches, and even ideologies that give specific identity to each field and pull them apart. How can both fields eventually be brought together into a public health-mental health continuum? What advantages would there be to such a development? What convergences have already emerged?

After the end of World War II, the community mental health movement began to gain momentum in this country. The initial thrust was an outgrowth of national defense manpower analyses which revealed that high proportions of rejections for military service, and of military discharges were due to mental disorders. As a result of these findings, the involvement of the Federal Government in mental health matters took off at an accelerated pace. Funds for research, manpower training, improvement of mental hospitals, and the establishment of community programs for care, treatment, and rehabilitation of the mentally ill became available. The impetus provided by Federal aid to the States stimulated the adoption of State legislation to provide a basis for State-local-private sharing in financing mental health services. Through such legislation, locally organized mental health programs began to gain increasing public support. During this period also a trend ensued to reduce the utilization and length of patient stay in State mental hospitals. Administrative reforms, reorganization of mental hospitals, and the mass use of psychotropic drugs resulted in a reduction in the number of patients in the census of State hospitals. In a few years, these hospitals became one of a variety of facilities for care and treatment of the mentally ill, although they continued to be the major organization for care of the mentally ill. General hospital psychiatry, short-term hospitalization, day- and night-care programs, outpatient hospital and free-standing clinics, and private office services began to expand rapidly. Mental health consultation to police, courts, schools, welfare agencies, and health care agencies and institutions became part of the total range of service programs offered by locally organized mental health agencies in the communities. As facilities and services increased, so did their utilization by those needing help.

The field of community mental health also expanded its boundaries and brought its resources into areas which previously had been in other domains of human behavior such as education, medicine, law, social service, and police work. Its concerns became interdisciplinary, although its central focus remained clinical since demands for services, and professional interests and rewards continued to be directed to the treatment of individuals and families suffering mental and emotional problems. Two new subspecialties of psychiatry, community psychiatry and social psychiatry, emerged. Within psychology, the subspecialty of community psychology also developed. These trends suggested that the mental health field had outgrown psychiatry and that it was different from the aggregate of psychiatry, psychology, social work, and psychiatric nursing, the professions which comprised the clinical team concerned with the care and treatment of the mentally ill.[27] What the mental health field comprises thus would depend on those specific activities in which professionals and organizations within the field are generally engaged, their techniques and methods, and the theories upon which they base their program actions in relation to controlling disordered behavior and feelings.

In the framework of this enlarged community interest of mental health work, attention has been given to the possible applications of public health principles and methods to mental health programs. Thus, in this sense community mental health represents an interface between mental health and public health. Another interface concerns the utilization of mental health principles and practices within public health work itself. Both have the potential to increase the reach into populations and communities and to affect the development of more integrated programs of service as well, and only careful evaluation of such programs would give measures of their impact in improving the health of the community.

In summary, schools of public health train workers to discharge responsibilities related to the overall health of the population. Of increased concern for public health has been the magnitude of mental health problems and the capacity which public health workers could bring to their control. The mental health field has traditionally concentrated on the care and treatment of the mentally ill, and the increases obtained in professional mental health manpower have made but little dent on mental health problems. Training of public workers in mental health concepts and practices have been a part of the effort toward dealing more effectively with mental health problems as an aspect of public health work; also, schools of public health have been deemed as another suitable setting for training mental health specialists. Training such personnel is related to the issues of collaboration of public health and mental health personnel and to the integration of mental health and public health concepts and practice. These issues are not yet resolved. New avenues must be found other than already tried empirical approaches which seem to ignore the lags between the ways in which professional workers are trained, their values, traditions, and identity, the political and social contexts of the bureaucracies, and the cultural systems of rewards and recognition of the society in which they live.

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[27] Laswell has observed that in the future the scope of psychiatry is likely to be diminished and that many programs now conceived as mental health may be more plausibly referred to as "the cultivation of human resources," "cultural reconstruction" (p. 62), and the like, while research programs on neurology and brain chemistry will be budgeted as components of "general research programs in physiology and neurology" (pp. 62–63). (Harold D. Laswell, "The Politics of Mental Health Objectives and Manpower Assets," ch. 3, in Arnhoff, F. N., Rubinstein, E. A., and Speisman, J. C. (eds.), *Manpower for Mental Health*, Chicago: Aldine Publishing Co., 1969.)

Within bureaucracies, mental health like any other health program is based on operational and political definitions couched in professional or technical terms. There is no fixed and universally accepted definition of the field or of the scope of mental health programs. The demands for mental health services and the magnitude of the problems of mental illness and other behavioral disorders have culminated in sustained and expanded national efforts to stimulate research, training, and service development at the State and local levels both within the public and private sectors. The crisis in health manpower and the demands for technically and financially manageable comprehensive health services have added a note of urgency to the need for clarifying the areas in which public health and mental health programs can reinforce and strengthen each other, thus eliminating the fragmentation of costly and scarce resources.

One of the tasks before the field of mental health itself is an effective rapprochement with public health, welfare, education, and other human services. A similar task faces public health. Historically, both fields have generally followed different paths. At this time, however, professional judgment favors community-based and oriented comprehensive health services with emphasis on prevention, early care, and health protection and maintenance. Thus, new challenges are facing both professionals and training institutions. Revised, or yet to be invented organizational or interorganizational mechanisms may be required as well as new arrangements in planning, in the logistics of service provision, and in the leadership and control of programs.

CHAPTER 2

THE STUDY FRAMEWORK AND METHODOLOGY

WHY THE STUDY WAS CONDUCTED

THIS study was conducted to establish systematically the profiles of recent American graduates from schools of public health in the United States, and to explore relationships between their characteristics and perceptions of training and professional practice with particular emphasis on the mental health aspects of public health work. Graduates from 11 different schools in the 7-year period 1961–67 were compared along those dimensions. Five major content areas were covered:

(1) demographic, educational, professional, and occupational characteristics of public health workers;

(2) awareness of exposure to mental health in public health training and practice;

(3) assessment of the training experience received in public health and in mental health;

(4) assessment of the usefulness of the mental health training experience in current professional public health work; and

(5) views on how to improve mental health training in schools of public health.

As a corollary to the above, the study probed into: (1) The appraisals that graduates from schools of public health now in the practice of professional public health work have made of their mental health-public health training, (2) the identification of curricular areas and content which in their judgment were covered and are useful to their professional work, and (3) the opinions, views, and knowledge about those gaps which they perceived between instruction and professional practice in regard to public health-mental health. Still in another sense, the study was also concerned with exploring the impacts of public policies designed to stimulate and to provide support for mental health training in schools of public health.

Although controversy persists as to the conceptual and operational relationships between public health and mental health practice as well as to the extent and scope of mental health content in public health training, systematic studies are lacking which examine the place of mental health training in public health or its relevance to the performance of public health work. Neither have questions related to the development of mental health manpower by schools of public health been the subject of research inquiry. This study was a first effort to begin to develop information and clarification of these issues and their pertinence to planning and replanning health manpower resources and organizing professional activities for the delivery of all types of health services.

METHODOLOGY

The findings reported in this volume pertain to one single point in time; namely, the summer and early fall of 1968 when the questionnaire survey was answered. The questions asked were related to events, actions, or opinions on matters which took place within three different time levels or stages in the life careers of respondents: (1) Prior to admission to a school of public health, (2) while attending a school of public health and pursuing a master's degree, and (3) subsequent to graduation from a school of public health.

In examining the replies, the investigators placed primary emphasis in determining the characteristics of respondents along those dimensions which would cast light on public health manpower in mental health. Since the instrument was not designed to establish developmental, career sequences, or time-series relationships, those analyses which are concerned with events pertaining to different time periods are not intended to be nor can they be construed as implying any direct cause-effect relationships.

Underlying Assumptions

Any professional service activities and functions depending on new scientific knowledge and its application are dynamic and in a state of change. Since the spread and acceptance of change and innovation is not a uniform or mechanical process in professional behavior, controversy thus becomes an intrinsic part of the dynamics of change. There are many professional controversies in public health including the subject of this volume, viz, mental health-public health. In view of such recognition, the underlying assumptions of this study are paramount: first, it was assumed that graduates from schools of public health, both as former consumers of public health training programs and currently as providers of health and mental health services, were in a crucial position to comment on the kind of mental health training that they had received, the relevance of mental health considerations to public health work, and the role of public health workers in mental health programs. The investigators also assumed that certain selective factors operated in attracting public health students to mental health such as the visibility of the mental health faculty, and of course work as well as of mental health components in overall public health training. A further assumption was that the professional background and previous interest of the respondents in mental health would also determine their pathways into mental health work.

Consideration was also given to characterizing current trends in public health and mental health professional practices and their possible impact on schools of public health and on the respondents. In this connection, it was assumed that when public health-mental health professional practice is subsumed organizationally under the rubric of public health alone, the mental health component tends to be obliterated and to lack salience in the tasks of professional service and performance. The tendency toward conceiving of the mental health field as a distinct interdisciplinary activity anchored in and germane to psychiatry, psychology, casework, and psychoanalysis [1] was considered to place mental health outside the context and responsibility of the public health field. This conception was believed to limit the role assigned to mental health in public health training and research, and to influence the organization and delivery of health and mental health services. It was assumed also that if schools of public health were to respond to the crosscurrents and ideological constraints pressing on the profession and its activities, they would be limited in making an optimal impact on the mental health aspects of public health training and on its implementation in future public health work. Their graduates then could be expected more likely to be unaware or acquiescent than aware and responsive to mental health as a component of public health training and of its overall relevance to public health practice.

Further, it was assumed that since the mental health aspects of public health are not yet clearly defined and resolved in professional practice, mental health training in schools of public health to a certain extent would reflect the ambiguities that characterize the field. Moreover, it appeared that mental health as a component of public health training has not been distinctly visible in training programs at schools of public health and thus might have been overlooked or not considered of enough importance by segments of the population of graduates.

In addition, it was considered that the lack of working or operational relationships between mental health and public health professional practices may be reinforced in the context of administrative settings where public health professionals are employed. Since public health and mental health programs often are in contention for funds and other resources, in actual practice the compartmentalization of their respective functions has tended to be reinforced. Meanwhile, although philosophically, the integration of all health and mental health programs is generally considered desirable, successful program coordination has been difficult and still awaits solutions on society's agenda for health administration.

The context of work experience—the degree to which mental health is accepted or potentially accepted as a distinct part which fits within the overall spectrum of public health work—was considered to affect the degree of interest and recognition of need for mental health skills on the part of public health workers.

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[1] Yolles, S. F., "Public Health and Mental Health: Some Thoughts on the Nature of the Relationship." In Goldston, S. E. (ed.): *Proceedings of the National Conference on Mental Health in Public Health Training.* U.S. Department of Health, Education, and Welfare, Public Health Service, Publication No. 1899, Washington, D.C., Government Printing Office, pp. 7–8.

No direct cause-and-effect relationships between training and practice were assumed, but rather that training would be one of the factors to influence the direction of professional practice and its implementation.

The study was not conceived or structured either technically or in purpose as an evaluation of mental health training in schools of public health or of mental health aspects of public health work; neither was it designed as a device to measure the merit or weakness of any training program or programs conducted by schools of public health. The intent was to determine through the responses of graduates from public health training programs who are primarily engaged in public health professional work to what extent, in their judgments, they had obtained mental health training and, if so, to what extent was such training useful in their professional work. Respondents were also questioned about their public health professional practice and as to the acceptability of mental health in public health by the profession and by the general public. Such queries were deemed to be consistent with the assumption that schools of public health although relevant could not be considered to be a single determinant of professional practice behaviors in the field.

Several hypotheses were constructed to set parameters and guideposts for the study, although the objective of the study was not hypotheses-testing and theory-building. In effect, the investigators were primarily concerned with studying practical questions regarding the training of public health manpower equipped to apply their skills in the control of community mental health problems. In approaching these problems, it was essential to construct an instrument which would provide verifiable data, and to design tables which would clearly and accurately yield facts relevant to the issues posed in the study.

Criteria for Selection of the Respondent Population

The plan for selection of respondents called for designating a well-circumscribed and sufficiently large but manageable population which would provide information relevant to mental health training in schools of public health, as well as to the relationships of mental health to public health practice in the United States. Accordingly, and as further explained below, the study population was defined as consisting of American citizens who had received a master's degree from an accredited school of public health in the continental United States during the period 1961–67.

For practical reasons of economy, no effort was made to sample such a population. The investigators had anticipated that graduates from these schools might be difficult to locate due to their geographic mobility and thus that sufficient responses might not be forthcoming. In order to locate respondents, a request was made to the schools of public health for complete lists of their graduates meeting the criteria for selection of respondents. It was also decided that the most efficient technique to contact potential respondents dispersed throughout the country was a questionnaire by mail.

The following factors were specifically considered in defining the study population:

American Citizens.—Since a primary concern of the study was to obtain information on the relevance of mental health considerations in public health practice in the United States, only American citizens were included in the study population. All citizens from other countries who had received a master's degree from an accredited school of public health in the United States were excluded. Included were persons who were citizens of another country at the time of training, but who had become citizens of the United States by the time of the survey. American citizens trained in Canadian schools of public health were excluded. A further consideration affecting the decision to select American citizens was that stipends from the National Institute of Mental Health for the training of mental health specialists in the schools of public health are intended primarily for citizens of the United States and only in selected instances such stipends may be awarded to noncitizens who are admitted to the United States for permanent residence or to noncitizens holding temporary visas.

Because of the heterogeneous backgrounds of persons attending schools of public health, the selection of only American citizens also was considered a means to reduce further variabilities which might have been introduced by inclusion of diverse foreign nationals. Moreover, limitation to American citizens would still make it possible to draw on a large majority of graduates from schools of public health who would most likely be residing and working within the United States, and thus reduce the problem of locating respondents. According to information available from the American Public Health Association, 69.9 percent of all graduates from accredited schools of public health in the United States and Canada during the period 1961–67 were American citizens, the remaining 30.1 percent were nationals of Canada and other countries (see app. B, table 1, p. 240).

Accredited Schools of Public Health in the Continental United States Awarding Degrees During 1961–67.—A second criterion was to limit the study to graduates from accredited schools of public health in the continental United States which awarded degrees during the entire study period, 1961–67. Accordingly, graduates from the following 11 schools of public health were included in the research study: University of California (Berkeley), University of California at Los Angeles (UCLA), Columbia, Harvard, Johns Hopkins, Michigan, Minnesota, North Carolina, Pittsburgh, Tulane, and Yale.

Not included in the study were graduates from the two Canadian schools (Montreal and Toronto) and from three American schools initially accredited after 1961, and which therefore did not graduate classes throughout the entire study period (Hawaii, Loma Linda, and Oklahoma). The Department of Preventive Medicine and Public Health at the University of Puerto Rico School of Medicine, which is an accredited school of public health, was excluded due to social, cultural, and language complexities which would have required another type of inquiry.

The 11 schools whose graduates were surveyed had all received public health-mental health training grant funds from the National Institute of Mental Health for several years, starting in a span from 1948 to 1963. Therefore, considerable background information about grant history and mental health program development in each of the 11 schools was available to the investigators.

Master's Degree Recipients.—Another criterion in defining the study population was to focus only on master's degree recipients. The vast majority of graduates from United States and Canadian schools of public health during the period 1961–67 were awarded a master's level degree—6,573 master's degrees or 94.7 percent out of a total of 6,940 graduate degrees awarded (see app. B, table 2, p. 241). By limiting the study population to master's degree graduates it was possible to define an aggregate which by and large had shared in various forms a similarity of curricular experiences as a result of a common level of training in a school of public health.[2] In other words, while the curriculums of the various schools differ, and each school is unique in its capabilities and emphases, there are some common subject elements to which students attending a school of public health generally will be exposed; e.g., biostatistics, epidemiology, environmental health, and public health administration.

Study Period, 1961–67.—The rationales for studying graduates from this 7-year period were as follows:

> (1) The intent of the investigators was to study a "universe" of graduates, inclusive of the broad range of professional backgrounds and graduate professional preparation in the various subspecialty areas of public health. The 7-year period chosen for study offered a sufficiently large number of potential respondents necessary for this type of survey.
>
> (2) All 11 schools whose graduates were included in the study had received NIMH training grant funds at some time during or throughout this 7-year period. Eight of the schools had received such grant funds during the entire period (UCLA, Columbia, Hopkins, Michigan, Minnesota, North Carolina, Pittsburgh, and Yale). Three schools had received NIMH funds during the following years: Harvard, 1961–66; Tulane, 1962–67; and University of California (Berkeley), 1963–67.
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> (3) The 7-year timespan was assumed to provide for the inclusion of graduates subsequent to receipt of their public health degrees within a continuum of work experience and

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[2] Operationally, the definition of the study population permitted the inclusion of doctoral candidates or doctoral holders if such respondents initially also had received a master's degree from one of the 11 schools of public health any time during the period covered by the study.

involvement in public health to permit inquiry as to the relationship of their work to mental health. In addition, since respondents' perceptions and to some extent recall were to be evoked, the investigators felt that within this 7-year time period training experiences at a school of public health would still be within remembrance.

(4) Last, and of major importance, the 7-year period 1961–67 had been characterized by great changes in the scope and practice of public health, and by significant growth and development within the field of mental health.

Locating Respondents

Shortly after the study population was defined, a letter was sent in November 1967 to the heads of the 11 schools acquainting them with the intent and purposes of the proposed study and requesting a list of names and addresses of all the American citizen, master's degree graduates, during the period 1961–67. This communication stated that by definition the awarded master's degree may be an M.P.H., M.S., M.S.P.H., M.S. Hyg., M.H.A., or any other type of master's degree awarded by a school of public health. By the end of March 1968 all the lists had been received.

CONDUCT OF THE FIELD STUDY

Questionnaire Construction

Development of the questionnaire took place over a 10-month period. Eighteen major revisions of the instrument were made prior to the final form in which it was mailed to graduates (see app. B, pp. 242–250). During the process of questionnaire development, consultations were held with representatives of the U.S. Public Health Service, the American Public Health Association and its Professional Examination Service, the members of the Advisory Committee to the National Conference on Mental Health in Public Health Training, and several survey research workers in the United States. Revisions were made in accordance with suggestions made by reviewers and on the basis of two pretests conducted with individuals familiar with mental health and public health. As the questionnaire was being developed, the literature was reviewed for further clarification of objectives, historical backgrounds, and modifications to the questionnaire itself.

The content of the questionnaire was organized around the following five major areas—

(1) demographic characteristics, education and professional backgrounds, and experience in public health and in mental health work of the study population;

(2) exposure to mental health-public health training in re-

lation to major program, to mental health aspects and subject matter, to mental health course work, and to interaction with mental health faculty during their training experience in a school of public health;

(3) occupational characteristics and the extent to which mental health content is relevant and accepted in the professional work of the graduates;

(4) opinions of the graduates with respect to their perceptions and satisfactions both with their formal training and their professional activities as related to mental health; and

(5) felt needs for additional mental health training and views on improvements in mental health instruction at schools of public health.

To provide a basis for comparisons and generalizability, formats and questions from other research studies and from routine data-gathering systems were used whenever appropriate. Previous surveys by the Manpower and Analytic Studies Branch, Division of Manpower and Training Programs, NIMH provided a guide for the structure and content relating to such items as work setting, source of income, and functional title. Some questions on employment status were included to provide data on professional public health workers in the labor force for program planning activities in other components of the U.S. Public Health Service.

The Student Census Card maintained by the American Public Health Association provided a format for obtaining information on the primary professional discipline of graduates prior to formal public health training and on the major programs of study pursued in a school of public health.

No definition of mental health was given in the questionnaire itself in order to allow respondents the broadest possible latitude in conceiving of the mental health aspects of public health. Certain questions, nonetheless, by connotation clearly suggested and defined specific mental health inputs; e.g., mental health content areas covered, role relationships with mental health faculty, and catalog listed mental health course work taken.

Two listings of topic areas were constructed to obtain appraisals of the extent of exposure of graduates to mental health subject matter and the degree to which such mental health content subsequently has been useful in their work. The first list identified a series of public health topics classified under two main headings—*socioenvironmental*, and *family and child health*. Included under these two headings were 31 topics covering areas generally considered of public health concern in professional journals, texts, classroom, and practice. The questionnaire was then structured to elicit: (*a*) Whether the mental health aspects of the public health topics were covered during training, (*b*) the quality of the presentation, and (*c*) the extent to which the mental health aspect of the public health topics has been useful in subsequent professional practice.

The second list included a total of 43 mental health topics classified under three headings—*basic, general,* and *specialized*—which were then further categorized. As with the first list of topics, respondents were asked to indicate if the topics were covered, and to note the quality of presentation, and their usefulness in practice.

Two main sources were used in devising the list of mental health topics. The first was *Mental Health Teaching in Schools of Public Health,* the report of the Arden House Conference of December 1959 which identified three sets of mental health curricular content: (*a*) A core mental health curriculum content for all students in schools of public health, (*b*) a core curriculum content which has general application, and (*c*) mental health curriculum content areas for special groups of public health students. The second major source was *Mental Disorders: A Guide To Control Methods,* an official publication of the American Public Health Association prepared by its Program Area Committee on Mental Health. This guide was first printed in September 1962, and has subsequently been reprinted three times with about 15,000 copies distributed.

The two above-mentioned publications were prepared jointly by public health professionals and mental health professionals, and their contents were specifically directed at public health workers. Other topics were based on national legislation and on articles in the *American Journal of Public Health* and other national health and mental health publications. Thus, the topics itemized had been identified publicly by professional workers, journals, and educators in the fields of public health and mental health.

A limited number of new items were included which have taken on increased emphasis recently. Examples of this kind include: The role of the private sector in mental health programing and financing, comprehensive community mental health centers, principles of comprehensive mental health planning, psychiatric registers, and social breakdown syndrome (SBS).

Mailing the Questionnaire

Mailing of the questionnaire, management of its distribution and control, and data processing were done by the Professional Examination Service of the American Public Health Association under a contract with the NIMH. While the questionnaire was being developed, a pattern of collaboration was started between the investigators and the Professional Examination Service, APHA which continued until the completion of the survey.

The survey questionnaire was a precoded, nine page booklet consisting of 25 major questions, and a maximum total of 270 responses. Except for the last question which was open-ended, respondents were only required to check one answer to each question or its parts. Based on pretests, it was estimated that the questionnaire would take about half an hour to complete.

The questionnaire was mailed to 4,459 individuals named on the lists of graduates provided by the 11 schools of public health whose American citizen, master's degree recipients from the years 1961–67 were to be surveyed. The names on the lists, addresses, and code numbers of respondents were subsequently machine-processed; one such machine-generated list was used as a master control list of the questionnaires mailed.

The first mailing which took place in midsummer, on August 19–20, 1968, was accompanied by a covering letter from the Director of the National Institute of Mental Health introducing the study to respondents. In addition, an announcement about the study with a request for cooperation was published in the *American Journal of Public Health* of August 1968. Three followup communications were sent to nonrespondents. On September 4, the day after Labor Day, a followup postcard was mailed to those persons who had not yet responded. A second reminder, followup letter No. 1, was mailed on September 16. A third and final reminder, followup letter No. 2, with a second copy of the questionnaire enclosed, was sent to those who had not answered by September 26. October 9 had been set as the cutoff date for inclusion of questionnaires in the study; due to the lapse in responses by mail, this date was extended to October 25. Thus, slightly over 2 months were required to collect the data.

Upon receipt, each questionnaire was noted into the master control list, and periodically, during the field period, lists of nonrespondents and tables of responses received were generated. Some unexpected difficulties developed from errors in the lists of names submitted by the schools. At first, these errors were called to the attention of the investigators by persons listed who wrote letters indicating that they did not belong in the study population. Other problems connected with the mailing and distribution were originated by agencies in which the questionnaire was routed to some individual other than the addressee. Letters were also received from relatives indicating that the addressee was overseas, as well as from persons on the list who refused to fill out questionnaires. Others completed only part of the form and returned it. Still a few others filled the questionnaire with obviously conflicting and implausible information. Such problems were minor, but they were detected since every questionnaire was reviewed prior to inclusion in the final data analysis. The internal consistency and validity of responses was done both by a series of automated internal filters and exclusion checks or program subroutines included in the main research program developed for the survey, and by professionally editing and reviewing each questionnaire received. The preliminary marginals and analyses as well as the final results were generated by a CDC 6600 computer system.

Responses Received

By October 25, 1968, a total of 3,345 or 75.0 percent of all the questionnaires mailed had been received (see table 2:1).

Table 2:1.—*Questionnaires mailed and received, by school of public health*

School	Total number of mailed questionnaires	Number of questionnaires received	Percent of questionnaires received
Berkeley	725	530	73.1
Columbia	364	268	73.6
Harvard	322	250	77.6
Hopkins	278	192	69.1
Michigan	780	601	77.1
Minnesota	468	345	73.7
North Carolina	663	504	76.0
Pittsburgh	253	201	79.4
Tulane	128	98	76.6
UCLA	307	218	71.0
Yale	171	138	80.7
Total	4,459	3,345	75.0

Of the 4,459 mailed questionnaires, 3,115 or 69.9 percent were usable and 1,344 were lost. The lost questionnaires included 389 unusable returns (66 of which arrived after the cutoff date of October 25, and 323 which had been answered by unqualified respondents, had errors, or were incomplete). A total of 955 individuals did not respond at all (see table 2:2).

Table 2:2.—*Distribution and response rate to mailed questionnaires*

				Percent
Total number of mailed questionnaires			4,459	100.0
Answered, usable			3,115	69.9
Answered, unusable		389		
Not on time	66			
With errors, etc	323			
Not answered		955		
Total lost (unusable and not answered)			1,344	30.1

The goal of obtaining a 70.0 percent response rate from among the graduates from each school was set; this goal was reached by respondents from eight of the schools. The response rates of usable to mailed questionnaires ranged from 64.7 percent for Hopkins respondents to 73.4 percent from Tulane graduates. This response rate reflects a rather high level of interest by graduates of schools of public health in professional matters and on research into their professional activities (see table 2:3).

TABULATIONS AND PRESENTATION OF DATA

The data presented in this volume comes from over 100 marginal tables and almost 200 cross-tabulations of selected variables. Replies by

Table 2:3.—*Distribution of response rate to mailed questionnaires, by school of public health*

School	Number of mailed questionnaires	Number of usable questionnaires	Response rate
Berkeley	725	513	70.8
Columbia	364	257	70.6
Harvard	322	226	70.2
Hopkins	278	180	64.7
Michigan	780	565	72.4
Minnesota	468	315	67.3
North Carolina	663	462	69.7
Pittsburgh	253	180	71.1
Tulane	128	94	73.4
UCLA	307	201	65.5
Yale	171	122	71.3
Total	4,459	3,115	69.9

respondents from each school have been compared to each other with emphasis on both the highest and the lowest percents of replies given to each item in a question. In presenting findings from cross-tabulations, the procedure followed also has been to compare the highest and lowest percents of respondents replying to given questions. Replies by majorities of respondents (50.0 percent or over) both for marginals and cross-tabulations have been explicitly noted. Only tabulations for which the number of respondents was 50 or more have been used. Although the total number of respondents was 3,115, different, smaller bases may appear in the tables and in the text since only the actual denominators have been used in relation to those questions requesting that only a segment of the population would answer. All illegitimate responses were filtered out. In all instances, the *N* or actual base used in tables is mentioned.

The findings also were inspected whenever appropriate in relation to data reported by Troupin [3] in the annual reports about schools of public health issued by the American Public Health Association. Although no precise comparisons between these findings and Troupin's reports were possible due to differences in methods of gathering information and manner of categorization, inspection of findings from this study and Troupin's reports reveal a general consistency in direction.

Last, the tables on the geographic distribution of respondents were generated from the list of addresses. Repondents' addresses were coded and counted by regions and by statistical metropolitan areas.

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[3] Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada, for each of 7 years covered by the study, mimeographed annual reports. See app. B, tables 3 and 4, pp. 251–252.

OVERVIEW OF THE SCHOOLS OF PUBLIC HEALTH

CHAPTER 3

PROFESSIONAL education in public health as a field of organized knowledge is a product of the 20th century and is concerned with the application of epidemiology, the biological and medical sciences, administration, and more recently the social sciences, to the solution of health problems in populations or communities. At the time of this writing, there are 18 accredited schools of public health in North America: 14 are within the continental United States, two outside the continent (Hawaii and Puerto Rico), and two in Canada (Montreal and Toronto).[1] These schools train professional health manpower, primarily by offering educational programs at the master's degree level. Their student bodies consist mainly of persons who already have been trained in a health or health-related discipline and/or who have experience in health work. In this connection, Wellin has characterized training in a school of public health as a process of "secondary professionalization" since most students who attend these schools have already acquired a primary profession. He observed that:

> * * * (the) basic and explicit functions (of schools of public health) are in the area of secondary professionalization. That is, the prevailing pattern is for public health schools to provide post-graduate public health training for individuals *who have already received basic professional training* in a broad range of professions * * * By contrast, virtually all other professional schools are devoted to primary professionalization; i.e., to the induction of individuals, who begin training as novices, into the technical and attitudinal subculture of a given professional field.[2]

Among the members of many primary professions seeking public health training are chemists, dietitians, dentists, engineers, nurses, physicians, teachers, and veterinarians. Public health workers who have been trained in schools of public health constitute a relatively small segment of the total force of professional health manpower in this country. In fact, between 1961 and 1967, the total number of American citizens awarded master's degrees by all the accredited schools of public health in the United States was 4,680 (see app. D, table 1, p. 273).

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[1] Subsequent to the preparation of this chapter, in late fall 1970 a new school of public health at the University of Washington in Seattle became the 17th such accredited institution in the United States.

[2] Wellin, E., "Uses of the Behavioral (Social) Sciences in Public Health," Report submitted to the National Institute of Mental Health, July 1961, 63 pp., mimeographed, pp. 14–15.

EARLY BEGINNINGS

As indicated before, at the beginning of the 20th century, the major emphasis of public health work was communicable disease control through environmental sanitation and bacteriology. Most public health training was provided in medical schools, except for a training program in sanitary engineering established by Sedgwick at the Massachusetts Institute of Technology at the turn of the century. In the first decade of the 20th century McGill, Toronto, Pennsylvania, Harvard, MIT, and Michigan were offering courses and degrees in the public health field.[3] In 1913, a school of public health was organized jointly by Harvard University and the Massachusetts Institute of Technology. According to Smillie, the "basic courses were: (1) public health administration, (2) epidemiology, (3) biostatistics, and (4) environmental sanitation. Emphasis was placed on microbiology; field experience was combined with lectures, symposia, and laboratory work." [4] In 1922, 9 years later, the Harvard-Technology School for Health Officers was discontinued since a court proscribed these institutions from awarding a joint academic degree. Subsequently, both the Harvard School of Public Health and the School of Sanitary Science at the Massachusetts Institute of Technology were established as separate entities.[5]

In 1913 at the initiative of the Rockefeller Foundation, the Committee on Medical Education of the General Education Board explored the issues of professional training for public health work. Abraham Flexner made an inquiry into training available in medical schools and late in the year 1914 a conference was held on training for public health services. Among the conclusions of this conference were: (1) That there was a fundamental need for adequately trained public health personnel, (2) that a distinct contribution toward meeting this need could be made by establishing a school of public health of high standards, (3) that such a school should be closely affiliated with a university and its medical school, and (4) that it should be organized as a separate entity with an institute of hygiene as the nucleus. These recommendations led to the establishment in 1916 and the official opening in 1918 of the School of Hygiene and Public Health at the Johns Hopkins University.[6] Rosen has asserted that the school of public health at Hopkins, as well as those at Harvard and Toronto, have influenced the subsequent development of other schools of public health from that time to the present. Indeed, in his opinion, contemporary schools "are all recognizable as variants of the model initially created at Johns Hopkins." [7]

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[3] Hiscock, I. V., "The Beginnings of Our School of Public Health," dedication address, School of Public Health, University of North Carolina, 1963, Chapel Hill, N. C., 10 pp., mimeographed, p. 3.

[4] Smillie, W. G., "The Beginning of Formal University Training of Public Health Personnel in the United States," dedication address, School of Public Health, University of North Carolina, 1963, Chapel Hill, N. C., 3 pp., mimeographed, p. 3.

[5] Ibid.

[6] Rosen, G., "The School of Public Health: Its Derivation and Objectives," dedication address, School of Public Health, University of North Carolina, 1963, Chapel Hill, N.C., 10 pp., mimeographed, p. 4.

[7] Ibid., p. 6.

The Hopkins school was specifically proposed for the development of personnel for public health administration, including health officers, statisticians, epidemiologists, sanitary engineers, chemists, bacteriologists, public health nurses, and sanitary inspectors for local, State, and Federal service.[8] The goal of such a school was to be "the preservation and improvement of health." The suggested curriculum "included practically all the subjects that have been offered in the schools of public health to the present * * * (it also) * * * urged that students receive training in social science, and emphasized the need to relate the school of public health not only to the medical school but also to the social science department." [9] This was a period when public health was beginning to shift its focus of attention from the environment to man himself.[10]

The Hopkins school was established to help overcome what the Rockefeller Foundation considered—

> first, the lack of a sufficiently broad and sound basis of scientific knowledge for the systematic promotion of public health and personal hygiene; second, the lack of a well-defined career as an attraction to the able men whose interest is in this field rather than in the practice of medicine; third, the lack of due emphasis, in the training of practitioners of medicine, upon the importance of hygiene and of the practitioner's role as an apostle of hygiene no less than therapy.[11]

In addition, the existence of well-organized, properly staffed schools of public health would make possible "a more general recognition of public health work as offering to the ablest talent an attractive career, comparable in dignity and importance with medicine and the other established professions." [12]

In the decade 1910–20, when less than 100 degrees in public health were awarded, 11 medical schools and MIT offered formal instruction in the field. Most of the public health degrees (C.P.H., M.S., Diplomas, M.P.H., Dr. P.H.) were granted by Pennsylvania, Harvard, and MIT, with foreign students outnumbering American citizens.[13] [14]

In the fall of 1919, the American Public Health Association established a committee on training, and in 1932 formed its standing Committee on Professional Education.[15]

By 1939, 45 institutions offered 18 different kinds of degrees in public health. In Vaughan's words: "the time had arrived to concentrate the training programs in those universities blessed with finance, faculty, and facilities to offer degree work to those who possessed acceptable undergraduate education and experience warranting graduate instruction in areas of learning essential to career work in public health."[16] In 1941, seven schools of public health (Columbia, Harvard, Hopkins, Michigan, North Carolina, Yale, and Toronto) organized the Association of Schools of Public Health for the "exchange of information of mutual interest concerning the graduate education of professional personnel for service in public health and to promote and improve the education and training of such personnel."[17]

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[8] Ibid., p. 5.

[9] Ibid.

[10] Ibid.

[11] Rockefeller Foundation, *Annual Report*, 1916, pp. 27–28.

[12] Ibid., p. 31.

[13] Hiscock, op. cit., p. 3.

[14] Rosen, G. (ed.), "Public Health and Mental Health: Converging Trends and Emerging Issues," in *Mental Health Teaching in Schools of Public Health*, Association of Schools of Public Health, Columbia University, 1961, p. 53.

[15] Vaughan, H. F., "Schools of Public Health—The Past," dedication address, School of Public Health, University of North Carolina, 1963, Chapel Hill, N.C., 5 pp., mimeographed, p. 4.

In the following year, a memorandum from the Committee on Professional Education of the American Public Health Association identified the minimal educational facilities for graduate courses in public health, and further noted the "considerable advantage in having all necessary facilities for training all types of public health personnel in the same institution so that they may participate together in certain basic courses."[18] According to Shepard, the 1942 memorandum "intended to discourage students from taking specialized courses in poorly equipped schools and to point out to schools the undesirability of offering courses in public health unless adequate facilities were available."[19] However, little immediate impact was made toward setting standards for professional training and eliminating inadequate facilities. Indeed, in 1945, 3 years after the memorandum was issued, there were 700 trainees in 41 different schools, while many of those institutions were deemed to lack the essential resources for training professional public health personnel.[20]

ACCREDITATION

As Federal grants increasingly became available for training public health personnel, the U.S. Public Health Service, as the agency responsible for disbursement of these funds, joined with the Association of Schools of Public Health in 1945 to request that the American Public Health Association establish criteria for accrediting graduate training in public health. The Commonwealth Fund awarded a grant to the Committee on Professional Education of the American Public Health Association to formulate accreditation criteria and to review the facilities of applicant schools.[21] C. E. A. Winslow as Consultant on Accreditation to the Committee developed the original criteria in cooperation with the directors of the schools of public health. These criteria have since been amended twice.[22] Up to 1962 accreditation focused on the degrees awarded; since then, it has been extended to encompass the whole institution—its organization and administration; its mission, its faculty, and its interrelationships; its educational program as well as the degrees awarded.

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[16] Ibid., p. 5.

[17] Rosenfeld, L. S., Gooch, M., and Levine, O. H., *Report on Schools of Public Health in the United States,* Public Health Service Publication, No. 276, Washington, D.C., Government Printing Office, 1953, p. 8.

[18] American Public Health Association, Committee on Professional Education, "Memorandum Regarding Minimum Educational Facilities Necessary for the Postgraduate Education of Those Seeking Careers in Public Health," *American Journal of Public Health,* 32:534, May 1942.

[19] Shepard, W. P., "The Professionalization of Public Health," *American Journal of Public Health,* 38:149, January 1948.

[20] Ibid.

[21] "Accreditation of Schools of Public Health" (editorial), *American Journal of Public Health,* 35: 953–955, September 1945.

The accreditation process was started in the academic year 1946–47. By May 1947 the first list of schools accredited for providing the master of public health and doctor of public health degrees was released. Nine schools of public health in the United States were accredited to award the master of public health degree: California (Berkeley), Columbia, Harvard, Hopkins, Michigan, Minnesota, North Carolina, Vanderbilt, and Yale. The same schools, except for Minnesota and Vanderbilt, were accredited to award the doctor of public health degree. Accreditation for master's degree programs in health education, usually the M.S. degree, was initiated in 1949.

During the latter part of 1947, Tulane was accredited to grant the master of public health degree; in 1948 the school at Vanderbilt was discontinued. In 1950 the University of Pittsburgh and in 1957 the University of Puerto Rico were accorded accreditation. During the decade of the 1960's five additional schools in the United States were accredited: UCLA (1960), University of Hawaii (1965), Loma Linda University (1967), University of Oklahoma (1967), and the University of Texas at Houston (1969). Thus, at this writing, 16 schools in the United States and two schools in Canada are accredited for graduate education by the Committee on Professional Education of the American Public Health Association.

EDUCATIONAL OBJECTIVES AND FUNCTIONS

All accredited schools of public health share certain basic functions although their individual programs differ. The promotion of uniqueness and autonomy of each school was a concern since accreditation criteria were first developed in 1945. Shepard has pointed out: "From the outset it was agreed that too much standardization was undesirable. Schools were encouraged to develop their own methods and special interests so long as they met reasonable requirements." [23] The Committee on Professional Education while in keeping with this aim in 1966 formulated five general guidelines to be considered by schools of public health in carrying out their specific mission. These are—

> (1) to provide the broad professional education required by community health leaders who need: (*a*) the essential knowledge basic to the field, found in the biologic, physical, and social sciences; and (*b*)

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[22] See app. C, pp. 253–263 for current accreditation criteria (1966).
[23] Shepard, op. cit., p. 151.

> the mastery of skills in educational methodology necessary to apply scientific and technical health knowledge in the changing economic and political contexts of modern society;
>
> (2) to prepare specialists in several academic and professional disciplines for service in community health agencies, and for careers in related teaching and research;
>
> (3) to contribute to public health knowledge through the conduct of community-based health research, particularly epidemiological, behavioral, and operations research, to include an emphasis on the growing number of new health hazards, and the complex area of multiple etiology of diseases, and methods in use or proposed for their alleviation;
>
> (4) to provide, in so far as feasible, continuing education for personnel serving in community health agencies and educational institutions, for community planners, for health leaders (at all community levels—local, state, regional, national, and international), and to the public;
>
> (5) to provide community service, especially in the form of professional and technical consultation to individuals, groups, and communities, and through direct participation in community health diagnosis, field investigations, and planning improved comprehensive health services.[24]

Although the relative weight which the schools assign to their functions may differ, Anderson has commented forcibly as to the primacy of preparing professionals of multiple competencies for solving community health problems:

> * * * the fundamental obligation and responsibility of a school of public health as distinguished from an institute of biologic, physical or social research is that it has been established to prepare persons to adapt their professional competencies to the solution of community health problems. Just as the primary function of a medical school is to prepare physicians for the practice of medicine, or an engineering school to prepare engineers, a school of nursing to train nurses, or a college of education to prepare teachers, so the distinguishing mark of a school of public health is its responsibility to prepare persons to fill the many positions in public and private health programs. If this be not our primary function then we have lost our very reason for existence.[25]

Instruction in the schools of public health has two principal objectives: The development of a broad understanding of the fundamentals of public health and its approaches and methods by all students, and the training of specialists in various types of community health teaching, research, and service.

Generally, the student body and the variety of program areas and academic goals of a school of public health differ from those of academic departments in a university. In this respect, Mayes has noted that "collectively the American schools of public health are at once professional, graduate, post-graduate—and in a sense post-postgraduate—institutions * * * ." [26] In addition, as Freeman has observed, "the role of the school of the public health in developing and delineating public health practice appears to be expanding." [27]

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[24] American Public Health Association, Committee on Professional Education, "Criteria and Guidelines for Accrediting Schools of Public Health," *American Journal of Public Health*, 56: 1311, August 1966, see app. C.

[25] Anderson, G. W., "Schools of Public Health—Past-Present-Future: The Present," dedication address, School of Public Health, University of North Carolina, 1963, Chapel Hill, N.C., 10 pp., mimeographed, p. 2.

Thus, schools of public health do not respond to a single standard, nor are they uniform with respect to their mission, program content, or emphases. As a class of institutions of higher education, however, they share certain characteristics both as a result of historical forces and of common interest. With such observations in mind the description of the schools which follow has been undertaken.

ADMINISTRATIVE ORGANIZATION

In accordance with accreditation criteria, each school of public health in the United States must be "an integral part of a university" which is "a member of one of the regional associations of colleges and schools." [28] By contrast, in some other countries such schools are organized and operated by a national or provincial ministry of health.

Although a variety of administrative and professional arrangements exist with the universities, each school has practical autonomy to the extent that "requirements for public health degrees are effectively determined by the public health faculty." [29] The relationships of the schools to their parent university are either: (*a*) As a department of the medical school under a director who like any other department head is administratively responsible to the dean of the medical school (Yale); or (*b*) the school of public health is related administratively to a unit of health or medical affairs headed by a coordinator, vice president or dean (Columbia, Minnesota, North Carolina, Oklahoma, Pittsburgh, Puerto Rico, and Tulane); or (*c*) the school of public health is directly under a vice president for academic affairs (Hawaii); or (*d*) the school of public health is directly under the president or chancellor of the university (Berkeley, UCLA, Harvard, Hopkins, Michigan, Loma Linda, and Texas).[30] Schools which are not integral parts of medical schools may be "generally considered as relatively autonomous, and as occupying organizational positions on a par with other schools of the university, such as law, business, etc." [31] Regardless of whether they are located in a medical school or are separate from the medical school, the faculty and student body in a school of public health are drawn from a variety of disciplinary and professional backgrounds.

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[26] Mayes, W. F., "Future Role of the Schools of Public Health," dedication address, School of Public Health, University of North Carolina, 1963, Chapel Hill, N.C., 8 pp., mimeographed, p. 5.

[27] Freeman, R. B., "Schools of Public Health From the Standpoint of a Producer of Public Health Personnel," dedication address, School of Public Health, University of North Carolina, 1963, Chapel Hill, N.C., 8 pp., mimeographed, p. 3.

[28] American Public Health Association, Committee on Professional Education, op. cit., p. 1310.

[29] Ibid.

[30] Organizational relationships provided directly by the deans in personal communications, May 1970. Other information regarding training programs, students, faculty, organization, and financing has been drawn primarily from the annual reports on schools of public health prepared by J. L. Troupin, American Public Health Association.

Nine of the 16 schools of public health in the United States are part of the State-sponsored higher education program: Berkeley, UCLA, Michigan, Minnesota, North Carolina, Hawaii, Oklahoma, Puerto Rico, and Texas. Seven of the schools of public health are part of privately sponsored universities: Columbia, Harvard, Hopkins, Pittsburgh, Tulane, Yale, and Loma Linda. (Of the 11 schools included in this study, five are under public and six are under private sponsorship.)

Schools are organized into administrative units, departments, bureaus, or divisions which reflect their major components and fields of emphases and which are responsible for teaching, research, and field service programs in one or more subjects. Between the years 1961 and 1967, the period covered by this study, the average number of such administrative units in schools of public health in the United States and Canada ranged from 8.1 per school in 1961 to 9.2 per school in 1967.[32]

Certain subject areas or related fields may be known by different names or may be organized separately in different schools. While basic public health courses are taught in all schools, Troupin has observed that "the variation in organization gives greater or lesser relative emphasis to the range of subjects, depending upon the interests within a school of public health." [33]

The largest numbers of organizational units in the schools center around the areas or subfields of public health administration or practice, biostatistics, environmental health, and epidemiology. Three schools have organized administrative units in the mental health area—Columbia, Hopkins, and North Carolina. Other areas such as tropical medicine and international health, radiological science, public health economics, and physical education are each distinct organizational units in not more than one school (see app. C, table 1, p. 264).

STUDENTS

A marked characteristic of all schools of public health is the heterogeneity of the student body both by level of previous preparation and by professional background and experience. Wegman has commented on the diversity of the student body as a requirement of the field itself:

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[31] Troupin, J. L., "Schools of Public Health in the United States and Canada: 1959–1960," *American Journal of Public Health,* 50: 1771, November 1960.

[32] Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (year ending June 1967), mimeographed, p. 3.

[33] Troupin, J. L., "Schools of Public Health in the United States and Canada: 1959–1960," *American Journal of Public Health,* 50: 1771, November 1960.

> Public health is no single profession, but a field for the efforts of many groups and specialties. There are statisticians, nutritionists, administrators, physicians, educators, engineers, laboratorians, and experts in a variety of specific health and disease problems. They are united by the responsibility of working together to do those things for the health of the community, and the human beings who make it up, that are better done by organized community effort. The school of public health today recognizes its responsibility to be sure that each of these groups acquires its needed specific skills and acquires also a concept of how they work together.[34]

Anderson, writing on a similar vein as Wegman, opposes the restriction of public health training to one or two professional groups since in his view, many professional disciplines are needed to bring their competencies to public health work:

> * * * the school must give something more than lip service to the various professional groups that must inevitably comprise the public health team. If public health is indeed a synthesis of the contributions of diverse professional disciplines, each of which focuses its special competencies upon the many facets of a community problem, then it must follow that a true school of public health cannot restrict its instructional program to one or two professional groups, rejecting the rest as though they did not exist or, if existing, deemed unworthy of the attention of the school and its faculty.[35]

A total of 2,592 graduate students were registered in the 15 schools of public health in the United States and Canada in the academic year 1966–67. In 1962–63, the first year that the APHA collected discrete data on graduate students, 1,464 were enrolled in 14 schools.[36] [37] Almost all of the graduate students were in full-time attendance enrolled either in programs of 1, 2, or 3 years duration. In addition, students registered in other parts of the university also pursued part of their studies in a school of public health.

How many applications do the schools of public health receive from candidates to pursue graduate study? What is the rate of acceptances to applications? During the years ending June 1961 to June 1967, the number of applications increased annually, as did acceptances through 1966; with the number and percent of acceptances decreasing in 1967 from those of the previous year. The rate of acceptances in 1961 was 65.9 percent; in 1967 it was 57.7 percent.

In the years ending June 1966 and 1967 less than one-half of the applications became admissions to schools of public health (44.6 percent in 1966, and 43.9 percent in 1967); of the number of acceptances, 70.7 percent became admissions in 1966 and 76.0 percent in 1967 (see app. C, table 2, p. 265). Two factors may account for such ratios: (*a*) The schools receive and screen far more applications than students that they could actually absorb within their programs or they are highly selective in their acceptances, and (*b*) there may be duplications among qualified applicants who are accepted by more than one school. Schools in turn have reported that admissions are limited by such factors as a "relative scarcity of well-qualified candidates" in certain professional categories and major fields of study, the lack of financial assistance for some promising candidates, lack of adequate physical space, language handicaps of students from overseas, age of applicants, and the desirability of maintaining a favorable student-faculty ratio.[38]

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[34] Wegman, M., "School of Public Health—Present," dedication address, School of Public Health, University of North Carolina, 1963, Chapel Hill, N.C., 7 pp., mimeographed, p. 2.

[35] Anderson, G. W., "Schools of Public Health—Past-Present-Future: The Present," dedication address, School of Public Health, University of North Carolina, 1963, Chapel Hill, N.C., 4 pp., mimeographed, p. 2.

[36] Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (year ending June 1967), mimeographed, p. 9.

[37] Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (year ending June 1963), mimeographed, p. 16.

By professional backgrounds, the largest groups of applications during the years 1961–67 originated among: Physicians, administrators/hospital and medical care administrators, educators/health educators, nurses, and sanitarians. In these five professional categories were 67.6 percent of all applications and 66.2 percent of all acceptances to all schools of public health.

During this same period, the largest numbers of acceptances to schools of public health were for: Physicians, mathematicians/statisticians, biologists, engineers, veterinarians, and nutritionists/dietitians. Proportionately, the ratio of applications to acceptances was lower for administrators/hospital and medical care administrators, and physical educators (see app. C, table 3, p. 265).

The major programs pursued by the largest groups of master's degree graduates from all accredited schools of public health in the United States and Canada during the years ending June 1961 through June 1967 were Administration or Practice of Public Health, Medical Care and Hospital Administration, Health Education, Environmental Health, and Public Health Nursing; graduates with these five majors accounted for 57.1 percent of all master's degrees awarded. During the same 7-year period a total of 123 master's level graduates majored in Mental Health, or 1.9 percent of all such graduates; an additional seven Mental Health majors received a doctoral degree in this period (see app. C, table 4, p. 266).

By profession prior to enrollment, the largest groups of graduates from all schools of public health in the United States (among those indicating residence in the United States at the time of enrollment) during the years 1961–67 were physicians, nurses, administrators, educators/health educators, and sanitarians. Better than six of ten (63.3 percent) of all graduates who held residence in the United States at the time of enrollment came from these five professional backgrounds; and physicians, by far, comprised the largest group of all those graduates (23.0 percent) (see app. C, table 5, p. 267).

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[38] Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (year ending June 1967), mimeographed, p. 9.

Men predominated among the graduates; and the men were slightly younger than the women. During the year ending June 1961, the percent of women receiving graduate degrees was 27.8 percent; the percent of women graduates increased to 32.0 percent in the year ending June 1967. The median age for men in the year ending June 1967 was about 32 years, for women about 33 years.

Typically, students attending schools of public health receive financial assistance to pursue their graduate training. The U.S. Public Health Service is by far the single most frequent source of assistance for American citizens attending schools of public health in the United States. Other major sources of support include a students' own State, local, or county government or employer, the Agency for International Development, some other U.S. Government agency, the World Health Organization, or a private foundation. During the year ending June 1961, 15.0 percent of all graduates were self-sponsored; among June 1967 graduates this figure was 15.6 percent.

The claim that schools of public health are national and international resources is upheld in terms of the permanent places of residence cited by students at the time of their enrollment as well as by the affiliations of many of their faculty members with international health programs. During the year ending June 1967, graduates had come to the schools from 51 States and territories of the United States, and from 62 other countries including Canada. Schools, however, also tend to be regional and the accreditation guidelines suggest that relationships be fostered with service agencies in the communities where they are located.

PROGRAMS OF STUDY

In 1966, over two dozen different degrees were offered by schools of public health in the United States and Canada. The Committee on Professional Education has in effect recommended a regrouping of degrees awarded to reflect the two basic programs offered, viz, (*a*) One for generalists or administrators, and (*b*) the other for technological or scientific specialists.[39] [40]

The educational programs combine basic areas of public health with the specialized interests and approaches of individual schools. In providing flexibility, the Committee on Professional Education requires no particular courses of instruction by schools of public health provided that each can comply both with the broad CPE criteria and guidelines and with the stated objectives and purposes of the schools themselves.[41] The Committee on Professional Education recommends that candidates for any master's degree at a school would take one or more courses dealing with community health concepts and with public health sciences and fulfill other requirements equivalent to those for candidates for a similar master's degree at the parent university. In specific relation to the generalist degree, M.P.H., however, the Committee has indicated that "instruction in certain fields basic to public health be included as required content" for every candidate for that degree. Such fields of knowledge are outlined below:

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[39] American Public Health Association, Committee on Professional Education, op. cit., p. 1312.

[40] A more detailed discussion on degrees is presented in ch. 5.

[41] American Public Health Association, Committee on Professional Education, op. cit., p. 1314.

> 1. The nature of man, his physical and social environment, and his personal and social interaction—as they affect his health.
> 2. The basic technics of investigation, measurement, and evaluation, including biostatistics and epidemiology.
> 3. The basic technics of administration (organization and management), particularly as applicable to comprehensive health care programs.
> 4. The economic and political setting relevant to health services.
> 5. The application of these knowledges in the promotion of community health.[42]

The minimum length of training for a master's degree is one full-time academic year. For the M.P.H. degree some schools have extended this training period to include in addition part or all of a summer session or to comprise two full academic years.[43]

Among the principal programs of study offered in various schools are: Administration or Practice of Public Health, Aviation Medicine, Behavioral Sciences, Biostatistics, Chronic Diseases/Gerontology, Dental Public Health, Environmental Health/Public Health Engineering/Sanitary Science, Epidemiology, Health Education, International Health, Maternal and Child Health, Medical Care and Hospital Administration/Administrative Medicine, Mental Health/Administrative Psychiatry/Community Psychiatry, Microbiology/Laboratory Public Health, Nutrition/Biochemistry, Occupational Health/Industrial Hygiene, Physiological Hygiene/Environmental Medicine, Population Studies/Family Planning/Demography, Public Health Nursing, Radiation Health, Rehabilitation/Physical Therapy, Social Work in Public Health, Tropical Medicine/Entomology/Parasitology, and Veterinary Public Health.

FACULTY

Schools of public health must have a full-time faculty, supplemented by part-time faculty and by faculty holding joint appointments in other schools or departments of the university and/or with appointments in agencies. For accreditation purposes, they must have at least one full-time faculty member for each area in which a specialty major is offered. In the year ending June 1967 the 15 accredited schools of public health in the United States and Canada had an equivalent of 1,341.1 faculty and staff;

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[42] Ibid.
[43] Ibid., p. 1313.

in terms of full-time equivalents the faculty numbered 735, or an equivalent of 1 to 3.5 students enrolled in 1967 [44] (see app. C, table 6, p. 268).

In the year ending June 1967, the equivalent of more full-time faculty and staff taught subjects in the following specified areas than in any other: Medical Care and Hospital Administration, Epidemiology, Administration or Practice of Public Health, Biostatistics, and Environmental Health. These had been the areas of largest concentration of faculty and staff in 1965 although in a somewhat different rank order. Between 1965 and 1967, the largest increase in the equivalent of full-time faculty and staff was in the area of Medical Care and Hospital Administration. The largest decline in any area was in Maternal and Child Health. During this period, there was a slight increase in the full-time faculty and staff equivalent in Mental Health (see app. C, table 7, p. 269).

According to Troupin's reports, the faculty and staff of schools of public health by far are constituted by individuals whose primary professions are that of physician, mathematician and statistician, and behavioral scientist (see app. C, table 8, pp. 270–271).

FINANCING

Overall, American schools of public health are largely financed by the Federal Government. The Canadian Government has a similar role with respect to accredited schools of public health in that country.

During the year ending June 1967, the largest source of income for the schools collectively was funds for research grants and contracts, approximating 44.0 percent of all their income. Income in the combined categories of: (*a*) Teaching and training grants and contracts, and (*b*) traineeships and fellowships approximates 32.0 percent of all income, while basic institutional support accounts for about 20.0 percent of the schools' funds. Other sources contribute about 4.0 percent of all support.

For the year ending June 1967, the average income for each of the 17 schools was $3,712,416 (see app. C, table 9, p. 272).

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[44] It should be noted that equivalent faculty includes both part time and full time as well as persons not in instructional roles. Also the combined total for all schools do not provide the range of ratios of students per faculty in each school. The figures cited above are only suggestive of the overall volume of faculty involved in schools of public health.

MENTAL HEALTH TRAINING IN SCHOOLS OF PUBLIC HEALTH

CHAPTER 4

INITIAL EFFORTS

THE inclusion of mental health training in schools of public health emerged from an historical context in which public health work increasingly has been expected to encompass certain responsibilities in the mental health area. The climate in which such expectations have developed is one in which the scope of public health itself has transcended from narrower specific technical concerns for the control of specific disease entities to a much broader ecological concept of health. By necessity this shift has taken place since new health problems have appeared which are associated with longevity, social and economic conditions, social and technological change, behavior disorders, and environmental factors. Similarly, the mental health field has undergone major changes, although it has retained a clinical emphasis since mental and emotional disorders of many kinds continue to be major burdens on resources and to be costly to the community. That the mental health field has moved toward public health approaches may be seen in the development of locally organized community mental health programs concerned with whole populations, prevention, early identification and short-term treatment, and rehabilitation.

Schools of public health virtually have assumed a responsibility for developing junctures between mental health and public health in the educational sphere. Articulating mental health with public health in an educational framework within schools of public health has been somewhat gradual and besieged by many still unresolved problems, particularly since other institutions responsible for the training of health and mental health personnel have remained rather isolated from such developments. In addition, political, economic, and social factors as well as vested interests have served as deterrents to a satisfactory clarification of the role of mental health in public health training and service. Against this backdrop the following description of mental health training program development in schools of public health has been reconstructed.

Since early in their development several schools of public health have included mental health content in their curriculum. Mental health training activities were initiated in the 1920's and 1930's at the Harvard, Hopkins, and Yale Schools of Public Health. Between 1922 and 1938 the Harvard School of Public Health offered mental health courses covering the subjects of mental defects, delinquency, and child guidance. Opportunities also were made available for clinical instruction and research.[1]

Although the first mental health faculty appointment at Hopkins was not made until 1926, the initial prospectus for the school written in 1915 included mental hygiene among the content areas in which students would receive instruction.[2] Lemkau notes that the preliminary announcement of the Hopkins school issued in January 1918 identified "social and mental hygiene" as areas for study by candidates for the degree of doctor of public health.[3] In 1932, the Eastern Health District of the city of Baltimore in collaboration with the Hopkins school became a community laboratory for research and practice in public health, including programs of epidemiological studies of mental illness. With the formation of the Mental Health Study Group in 1934, teaching and research in mental hygiene at Hopkins were strengthened. Beginning in 1941, Hopkins offered its first course relating personality development to public health practices; later, courses in community organization for mental health services and clinical opportunities were added. The first degree of doctor of public health with specialization in mental health was awarded by Hopkins in 1941, and in 1942 a group of students who specialized in mental hygiene received their degrees.[4]

At the Yale school, mental health content was covered in public health courses starting in 1930; however, mental hygiene courses were not offered until 1938 with the introduction of a required course entitled "Psychiatry in Relation to Public Health." In that year, nine elective mental health courses were offered.[5]

These early teaching efforts in mental health at the schools of public health were generally concerned with the prevalence, etiology, and management of mental disorders, and with the organization and administration of mental health clinics. "Apparently," writes Rosen, "there was no organized mental health teaching unit; teaching was more or less an isolated effort, and was not truly integrated in the curriculum."[6] Since all initial mental health teaching was done by psychiatrists, two of the issues attendant to developing and conducting mental health teaching programs in schools of public health were related to both the competence and to the availability of psychiatrists who would be properly suited to function within a public health setting and able to accept public health values, methods, and objectives. In examining the roles of psychiatrists in public health education and in the mental health movement Rosen has observed that there may be shortcomings in the competence of those psychiatrists who must shift from therapeutic roles to roles as educators, social scientists, and community organizers. He also noted that there was actually a shortage of full-time psychiatrists on the faculties of schools of public health.[7] Arguing in favor of broader disciplinary approaches in mental health, Rosen stressed that "just as the total prevention and control of most health problems are beyond the competence of medical personnel alone, the mental hygiene program is too broad to lie within the jurisdiction of any one individual or profession."[8] Shortly after 1959, other kinds of mental health professionals in addition to psychiatrists were to be found on the faculties of the schools of public health, largely as a result of financial support from the Federal Government. However, issues bearing on the professional competence of mental health faculty members still persist particularly in relation to professional jurisdictions and program leadership, mostly revolving around the status and role of psychiatry in public health-mental health training.

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[1] Rosen (ed.), op. cit., p. 55.

[2] Lemkau, P. V., "Notes on the Development of Mental Hygiene in the Johns Hopkins School of Hygiene and Public Health," *Bulletin of the History of Medicine*, 35: 169, March–April 1961.

[3] Ibid., p. 171.

[4] Ibid., pp. 173–174.

[5] Rosen (ed.), op. cit., pp. 56–57.

[6] Ibid., p. 57.

In 1950, Hiscock and Gruenberg highlighted the importance of mental health backgrounds for all public health students and faculty, and the relevance of mental health skills in the discharge of professional responsibilities by public health workers. They noted that the prime responsibility for the prevention of mental ill health lies with the public at large and specified those aspects of public health work which called for a background in mental health work. They wrote:

> It is essential * * * to provide an opportunity for all graduate students in public health to have at least some orientation in mental hygiene, in order that they may understand the community problems and opportunities, and be competent to work effectively with consultants and their professional associates who are more intimately identified with responsibilities and services in psychiatry and mental hygiene. All students and faculty members need this background of experience and understanding * * *[9]

They further observed that there was no single pattern to attain the said objective and suggested five major aspects of mental health concern to be included in the preparation of public health students and faculty:

1. Personal relations in an organization, department, or agency.
2. The personality problems of physical illnesses.
3. Mental hygiene as public health education.
4. Personality disturbances as public health phenomena.
5. A public health approach to mental illness.[10]

This, and other efforts toward setting directions to the mental health components of public health programs have barely begun to find their way into the public health curriculums. Attempts to expand curriculums and to move intensely to provide training in mental health have been characterized by a continued struggle for obtaining both adequate financing and appropriate personnel. Lemkau commented on the bleak financial status of mental health training and research programs in the schools of public health after World War II:

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[7] Ibid., pp. 58–59.

[8] Ibid., p. 60.

[9] Hiscock, I. V., and Gruenberg, E. M., "Teaching of Mental Hygiene for Graduate Students in Public Health," *American Journal of Public Health,* 40: 591, May 1950.

[10] Ibid., p. 592.

> The leadership of the schools of public health in the United States in this field (mental health) leaves something to be desired. I wonder if it is generally realized that the schools of public health in the United States actually spend less than $50,000 a year for mental hygiene teaching and research; that only one school in our country has a full-time research and teaching staff in mental hygiene.[11]

In view of the multiple needs of the schools of public health and the demands placed on them, it was apparent that new sources of financial support as well as a new thrust in professional leadership were critically needed to develop and expand mental health training programs. By stimulating the required development, the Federal Government began to assume a major role.

PROGRAM DEVELOPMENT AND EXPANSION

In July 1946, the Congress made its first major national commitment to mental health developments with passage of the National Mental Health Act (Public Law 79–487) which created the National Institute of Mental Health. Among the charges assigned to the NIMH was "training personnel in matters relating to mental health." As a result, new resources for mental health training programs became available to schools of public health. In 1948, even before the NIMH was formally organized,[12] a program of grants to promote the expansion and development of mental health training in schools of public health had already been initiated. The conceptual framework of this grant program maintained that the schools of public health would assume responsibility for training professional persons for leadership roles in public health who, by virtue of their positions in their communities and States, would affect the implementation of mental health programs and practices. Further, it also posited that these public health leaders should be aware of interpersonal factors in their public health tasks, the variety of services and facilities available for the mentally ill, and the application of public health principles to the detection, prevention, and control of the mental illnesses and the promotion of mental health as well.

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[11] Lemkau, P. V., "Mental Hygiene in Public Health," *Public Health Reports*, 62: 1161, Aug. 8, 1947.

[12] The new national mental health program was initiated in fiscal year 1948 by the existing Division of Mental Hygiene of the Public Health Service. In 1949 the Division was abolished and the National Institute of Mental Health was established as a component of the National Institutes of Health. (See Brand, J. L., "The National Mental Health Act of 1946: A Retrospect," *Bulletin of the History of Medicine*, vol. XXXIX, No. 3, May–June 1965, pp. 231–245.)

To implement these programmatic concepts, the NIMH invited applications for grants from the schools of public health to enable them to obtain resources for developing the designs and curricular content for the mental health teaching and training of public health officers.[13] Federal funds would also stimulate the schools to recruit mental health faculty members and to develop mental health courses and curriculum for the general student body of the schools. The provision of stipends facilitated the development in some schools of mental health specialty training programs for a variety of professional health personnel either allied to mental health (e.g., public health nurses) or professionally trained in the clinical aspects of mental health (e.g., psychiatrists). Prior to the receipt of NIMH grant funds few of the schools had been able to develop formal mental health training in the curriculum or were only able to conduct incipient training activities in this area.

The first school to receive a grant under this program was Yale University which in 1948 received a stipend for the public health-mental health training of one psychiatrist. Later on, the program at Yale was expanded to reach M.P.H. degree candidates and to train mental health specialists. In 1949, Hopkins received a grant initially designed for the inclusion of mental health principles and practices in the overall training of public health students. Over time, the scope of the Hopkins program was enlarged to provide mental health workers with specialized training in program planning and administration. Other schools subsequently receiving mental health training grants and the date of initial award include: North Carolina (1950), Harvard (1950), Pittsburgh (1951), Columbia (1953), Minnesota (1954), Michigan (1958), UCLA (1961), Tulane (1962), and Berkeley (1963).[14]

During the year 1949–50 when nine schools of public health in the United States were accredited, eight of them combined offered a total of 19 courses in mental health. Three schools—Harvard, Hopkins, and Minnesota—were already providing enough courses for students to major in mental health. Hopkins, which accepted both physicians and nurses for special training, was the only school with an organized division of mental hygiene.[15] During that same academic year, the deans of four schools—Columbia, Michigan, Minnesota, and Yale—expressed "an urgent need for expanding instruction in mental health," although at that time none of these schools had a full-time faculty member responsible for teaching mental health.[16]

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[13] Goldston, S. E. (ed.), *Mental Health Considerations in Public Health,* Public Health Service Publication No. 1898, Washington, D.C., Government Printing Office, 1969, p. iii.

[14] The initial grant to Harvard lapsed in 1964; a second grant program was funded from 1961 to 1966; a third new program began in 1967. The initial UCLA program terminated in 1966; however, a new grant program commenced in 1965.

[15] Rosenfeld, L. S., Gooch, M., and Levine, O. H., *Report on Schools of Public Health in the United States,* Public Health Service Publication No. 276, Washington, D.C., Government Printing Office, 1953, p. 35.

Over the 20-year period, July 1, 1948, to June 30, 1968, the National Institute of Mental Health awarded almost $8.4 million in mental health training grants to the schools of public health. Approximately 62.0 percent of these funds were awarded in the 5-year period 1964–68 during which total grant funds for mental health training at all schools of public health combined averaged slightly over $1.0 million annually. During the academic year 1967–68, 11 schools of public health were awarded a total of 16 NIMH training grants.

During the fiscal year 1966–67, 13 NIMH training grants provided support for a total full-time equivalent of 36.1 faculty positions in 10 schools of public health. By discipline, budgeted funds accounted for the full-time equivalent of 12.8 psychiatrists, 10.9 social scientists (primarily sociologists), 7.1 nurses, 2.3 psychologists, 2.0 social workers, and 1.0 biostatistician. The full-time equivalent of 4.2 positions remained unfilled during the grant year. Except in two schools which used some other source of funds for mental health faculty salaries, support of mental health faculty positions in schools of public health was solely from NIMH grant funds.

The professional disciplines of the training program directors responsible for the 13 NIMH grants to the schools of public health in 1966–67 included six psychiatrists, two psychologists, two sociologists, one nurse, one health educator, and one biostatistician. Approximately 75 mental health courses of various lengths and academic credits were listed in school catalogs in connection with the mental health training programs. About one-third of all the mental health courses were offered at Columbia. As mentioned in chapter 3, by that time, three schools—Columbia, Hopkins, and North Carolina—had organized identifiable mental health administrative units. Eight programs in seven schools provided NIMH stipends to students pursuing a mental health major: Berkeley, UCLA, Columbia, Hopkins, Michigan, Minnesota, and Yale.

The growth of public health-mental health training programs in the schools of public health over the years, both in terms of the increased number of schools receiving NIMH funds as well as the accelerated amount of grant funds awarded, appears to have been the result of several interacting major factors:

> (1) The increased attention which the Federal Government gave to mental health problems in the Nation was highlighted by the passage of the Mental Health Study Act of 1955 (Public Law 84–182) which led to the formation of the Joint Commission on Mental Illness and Health, and to their subsequent report *Action for Mental Health*.[17] This report in turn influenced the

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[16] Ibid., p. 87.

[17] Joint Commission on Mental Illness and Health, *Action for Mental Health*, New York: Basic Books, Inc., 1961, 338 pp.

President's decision to establish a cabinet level committee to study and recommend a legislative program. In 1962, the President called for the conduct of a comprehensive mental health planning process which would lead to the development of mental health plans by each of the States. These planning activities involving literally hundreds of people in some States lasted from 1963 to 1965. Meanwhile, another nationwide trend in mental health had developed throughout the States stimulated by the New York State Community Mental Health Services Act of 1954 which initiated State-local-private partnerships for community-based mental health programs. In 1963, interest in mental health reached a new momentum when President Kennedy became the first Chief Executive to send a Mental Health Message to the Congress outlining the magnitude of both the mental health and mental retardation problems affecting the country and announcing the need for major reforms in the care system. He deplored the conditions of the mentally ill in the State hospitals and identified among his major proposals the program for comprehensive community mental health centers.

Throughout the decade between the mid-1950's and 1960's the community mental health movement with its strong philosophical and conceptual orientation toward public health principles and approaches gained major thrust. During this period also rising concern developed about the location, organization, and interrelationships between mental health and public health programs. All these trends precipitated the national context in which schools of public health came to be perceived as potential major training centers for equipping the vast array of leadership personnel needed to assume responsibilities in and related to community mental health.

(2) The positive acceptance of the conceptual framework which governed the initiation of the grant program by NIMH and its reviewing bodies encouraged any reasonable steps taken by the schools to introduce mental health training.

(3) Since schools of public health generally were perceived as regional institutions and as national resources with limited sources of funds, of necessity, the Federal Government was seen as a logical source of support for them.

(4) Since virtually no other sources of support were available for public health-mental health training, and this was a period of program initiation and expansion, the scope of the NIMH program was flexible enough to include projects in areas only generally related to mental health such as academic training in the behavioral science disciplines as conducted in schools of public health.

The historical landscape depicting public health-mental health training in schools of public health over the past two decades is marked by a series of national conferences. In the early 1950's, as mental health developments were beginning to have major implications for both mental health and public health, and thus for the direction and content of public health-mental health training, it became apparent to the schools of public health and to the NIMH that a forum was needed to explore the status of training programs, to discuss common problems, and to plan for the future. On June 2–3, 1952, a conference sponsored by the NIMH was held at the Harvard School of Public Health. Approaching the issues of curriculum content, student personnel, and teaching methods in public health-mental health training, the conferees agreed that "there should be a universal program of mental health for all public health students and that this should be spread diffusely through all divisions of a school of public health at a horizontal level as well as specialized courses on a vertical level." In addition, the participants indicated that mental health should be, in part, required for all students and that it should be brought into the basic content of other course work. The importance of integrating mental health teaching with the rest of the curriculum was stressed, as well as the relevance of convincing other faculty of the need for mental health content in their courses while simultaneously promoting a more favorable disposition toward these objectives among the deans.[18]

As experience accrued and additional schools launched mental health training programs, near the close of the decade another national conference was called. Accordingly, the Arden House Conference was convened in December 1959 under the sponsorship of the Association of Schools of Public Health and the NIMH. In preparation for this conference, the NIMH staff recognized that over the years considerable progress had been made in the teaching of mental health in schools of public health, but that these teaching programs were still uneven and required further development. The following major impediments faced by the schools in public health-mental health training were identified:

(1) An inadequate understanding of an essential body of content dealing with what mental health is and what aspects of mental health should be taught.

(2) Some uncertainty among top administrators of the schools regarding how to teach or what to cover in the application of mental health content to public health.

(3) The lack of basic teaching materials for core-teaching content for all students.

(4) A lack of adequate numbers of effective and stimulating teachers who could communicate or translate content from the psychiatric and mental health fields to other disciplines.

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[18] "Conference on Mental Health in Public Health Training," NIMH staff memorandum, June 5, 1952.

(5) A limited utilization of mental health professionals, other than psychiatrists, to provide a broad teaching approach and base.

(6) A certain degree of insufficient interest, support, or perhaps, know-how among certain faculty members which has had the effect of isolating and discouraging the integration of mental health training from the rest of the curriculum.

(7) Complexities and problems inherent to the schools of public health themselves, such as inadequate financing, the heterogeneity of the student body and the presence of many foreign students, insufficient curriculum time, and too little study and research regarding basic concepts upon which teaching can be based.[19]

Based on those considerations, NIMH formulated benchmarks or criteria to assess the events and activities in public health-mental health training at schools of public health. Furthermore, the Arden House Conference of 1959 made specific recommendations regarding curriculum content and teaching methods directed to both the mental health training of all public health students as well as mental health specialists.[20]

In the mid-1960's pursuant to an emerging concern in the Federal Government about planning-programing-budgeting systems and the degree to which program intents may be reflected in program results, an NIMH staff study was undertaken to review mental health training grants to the schools of public health. Among the questions raised by this study were:

(1) To what extent were graduate students in public health receiving mental health training?

(2) What kinds of mental health training were being offered?

(3) To what extent were the original objectives for which mental health training grant funds were provided being fulfilled?

(4) What contribution was being made by the schools of public health to solve the mental health manpower crisis?

(5) What barriers existed to greater program achievement and development?

(6) How could the NIMH and the schools of public health continue to work more effectively and cooperatively to achieve their mutual goals?

Staff exploration of these issues indicated that many of the barriers to effective training identified over a decade before had not yet been fully overcome. As a result, an overall plan was formulated for further strengthening the mental health training programs in the schools of public health. The major components of this plan were:

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[19] NIMH staff memorandum, May 1959.

[20] *Mental Health Teaching in Schools of Public Health,* Association of Schools of Public Health, Columbia University, 1961, pp. 195–321.

(1) The development of new program guidelines and administrative regulations for reviewing applications for support of mental health training programs in the schools of public health.

(2) The convening of a national conference on mental health in public health training.

(3) The initiation of a research study on the perceptions of graduates of schools of public health to their public health-mental health training and the extent to which mental health concepts are utilized by these public health workers in their professional work.

(4) The development of new teaching materials which would promote the integration of mental health concepts within relevant public health subject areas.

Subsequently, on May 27–30, 1968, the National Conference on Mental Health in Public Health Training was held at Airlie House. The 88 conference participants included 78 faculty members representing all the accredited schools of public health in the United States. The avowed purpose of the conference was "to bring together faculty members from the schools of public health to explore and identify opportunities to include mental health content within the public health curriculum" which would be meaningful "to the general student body enrolled in the schools of public health, as distinguished from the training of mental health specialists."[21] In addition to the opportunity for the exchange of viewpoints among public health and mental health faculty members, two publications were generated: (1) A volume composed of formal papers on the mental health aspects of each of 12 public health areas, including content and teaching methods; and (2) a monograph of proceedings containing conference committee reports and plenary session presentations.[22] [23] These publications record the thinking and appraisals of both mental health and public health experts on the interfaces between mental health and public health and on the avenues and content areas to which public health workers should be exposed in their training.

CONTINUING ISSUES

Gaps still persist relating to the expectations of public health-mental health training as provided by schools of public health and as to the capacity of the schools to respond both to mental health manpower shortages and to the need for infusing mental health concepts and practices into public health work. In this connection, Rosen had observed in 1959 that "* * * too few of the concepts of the mental hygiene movement have found their way into the teaching programs of schools of public health * * * (and that) schools of public health have not yet reached a consensus on the question of mental health as a community problem, or with regard to its place in the curriculum."[24] Almost a decade later, Fry et al. reiterated this assessment by declaring that "the schools of public health have not notably championed the idea of public health involvement in mental illness and health."[25] Unquestionably, these issues remain, and only systematic program research and evaluation by the schools themselves can tell the story of accomplishment or lack of it.

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[21] Goldston, S. E., "National Conference on Mental Health in Public Health Training," *Public Health Reports*, 84: 136, February 1969.

[22] Goldston, S. E. (ed.), *Mental Health Considerations in Public Health*, Public Health Service Publication No. 1898, Washington, D.C., Government Printing Office, 1969, 252 pp.

[23] Goldston, S. E. (ed.), *Proceedings of the National Conference on Mental Health in Public Health Training*, Public Health Service Publication No. 1899, Washington, D.C., Government Printing Office, 1969, 89 pp.

It is a bias of these writers that the place of mental health in schools of public health and the optimal development of mental health training programs by these schools is inextricably connected with the place of mental health in professional public health work, as well as with the place of public health in mental health work. Therefore, as the research findings are presented in the following chapters the issues of perceptions of training received and work context are considered as interrelated aspects of this larger problem.

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[24] Rosen (ed.), op. cit., pp. 4, 25.

[25] Fry, H. G., et al., *Education and Manpower for Community Health*, Pittsburgh, University of Pittsburgh Press, 1967, p. 36.

PART II

THE PUBLIC HEALTH PROFESSIONAL AS TRAINEE AND WORKER

CHAPTER 5

EDUCATIONAL AND DEMOGRAPHIC PROFILES OF PUBLIC HEALTH WORKERS

BACKGROUND

SCHOOLS of public health mainly award graduate degrees at the master's level. As reported in chapter 2, this study focused on American citizens who received master's degrees from one of 11 accredited schools of public health in the United States anytime between 1961 and 1967. A total of 70 percent of the graduates responded to the mailed questionnaire.

School of Public Health Attended

Troupin estimates that during the 7-year period covered by this study, 4,680 American citizens received master's degrees from schools of public health of which 801 (17.2 percent) graduated from Michigan and 165 (3.5 percent) from Yale.[1]

Almost one-half of all the respondents (49.4 percent) graduated from three schools. The largest number of respondents, 565 or 18.1 percent, obtained their degrees from Michigan. Second were those who studied at Berkeley, 513 or 16.5 percent, and third were those who studied at North Carolina and who constituted 462 or 14.8 percent of all respondents. Following were 315 or 10.1 percent from Minnesota, 257 or 8.3 percent from Columbia, 226 or 7.3 percent from Harvard, 201 or 6.5 percent from UCLA, and 180 or 5.8 percent each from Hopkins and Pittsburgh. The smallest number of respondents were, respectively, 122 or 3.9 percent from Yale and 94 or 3.0 percent from Tulane.[2]

A large majority of respondents, 2,133 or 68.5 percent, received their degrees between the years 1964 and 1967; the remainder, 982 or 31.5 percent, received their degrees between the years 1961 and 1963. The smallest number of respondents receiving degrees in any one of the years included in the study was 309 or 9.9 percent which was the case both in 1961 and 1962; and the largest was 613 in 1966 when 19.7 percent of all respondents graduated. Over the 7-year period 1961–67 the number of respondents graduating from each of the schools fluctuated. There was no indication of a consistent process of annual growth or decline among graduating respondents although in general, the numbers of respondents from Berkeley, Michigan, Minnesota, North Carolina, Pittsburgh, UCLA, and Yale were considerably greater in 1967 than in 1961. The largest group of respondents from any school in any one year was 114 from Michigan in 1966 (see table 5:1).

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[1] Troupin, J. L., American Public Health Association, unpublished estimates prepared for this survey in 1969. The discrepancies in the proportions of graduates reported by Troupin and respondents who answered usable questionnaires by school were less than 1.0 percent for those from eight schools, and 1.4 percent or less for those from three schools (see app. D, table 1, p. 273).

[2] In the Tulane list, 1967 graduates were underreported.

Types of Master's Degrees Received

During the year ending June 1967 the schools of public health in the United States and Canada awarded 27 different graduate degrees and diplomas; and among these were 15 different types of master's degrees granted by schools in the United States.[3] Seemingly, there are no clear-cut differences either in the content or training process required among such degrees. Troupin, in directing attention to the problems emerging from such proliferation of master's degrees, has called for corrective action:

> Specifically, the problem is that of the existence of several degrees for one curriculum; for example, in Health Education a student may get an M.P.H. or M.S.P.H. or M.P.H. Ed. or M.S. Hyg., depending on which school he attends. This occurs even though the curricula are similar, and differ from each other no more than should be expected in dealing with several institutions. The same problem exists in Hospital Administration, Sanitary Science, and others. If the profession is to be considered as having 'come of age,' then corrective steps are indicated soon.[4]

McGavran in 1963, also addressed himself to this issue by dramatizing the confusion raised by the overlapping degree programs. He said that:

> We would be in utter confusion if all schools of medicine, dentistry, and nursing gave different degrees, meaning different things. Public health's degree structure isn't just ridiculous, it's impossible—a strictly cancerous and malignant growth.[5]

Still in 1967, this situation persisted and Troupin called attention again to the impracticability of the multiplicity of degree programs and advocated a "complete reform of the degree structure."[6]

In part, the diversity of degrees has emerged from the development of schools by accretion and the diverse educational and experience requirements for admission, the tendency of each school to maintain its individuality, the development of specific degree programs to meet needs of certain primary professions, and also as a product of the variety of interests of

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[3] Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (year ending June 1967), mimeographed, p. 24.

[4] Ibid., year ending June 1962, p. 17.

[5] McGavran, E. G., "The Future of Schools of Public Health," dedication address, School of Public Health, University of North Carolina, 1963, Chapel Hill, N.C., 4 pp., mimeographed, p. 4.

[6] Troupin, op. cit., 1967, p. 10.

TABLE 5:1—*Master's degrees received by respondents graduating from eleven schools of public health, years 1961–67*

School	1961		1962		1963		1964		1965		1966		1967		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Berkeley	56	1.7	43	1.4	59	1.9	67	2.2	93	3.0	93	3.0	102	3.3	513	16.5
Columbia	30	1.0	25	0.8	29	0.9	43	1.4	44	1.4	54	1.7	32	1.0	257	8.3
Harvard	30	1.0	27	0.9	21	0.7	29	0.9	40	1.3	42	1.3	37	1.2	226	7.3
Hopkins	24	0.8	19	0.6	18	0.6	26	0.8	27	0.9	32	1.0	34	1.1	180	5.8
Michigan	68	2.2	61	2.0	71	2.3	76	2.4	89	2.9	114	3.7	86	2.8	565	18.1
Minnesota	24	0.8	28	0.9	39	1.3	51	1.6	48	1.5	61	2.0	64	2.0	315	10.1
North Carolina	40	1.3	59	1.9	54	1.7	59	1.9	67	2.2	87	2.8	96	3.1	462	14.8
Pittsburgh	8	0.3	20	0.6	28	0.9	26	0.8	30	1.0	35	1.1	33	1.1	180	5.8
Tulane	11	0.4	12	0.4	16	0.5	13	0.4	18	0.6	23	0.7	1[2]	–	94	3.0
UCLA	6	0.3	9	0.3	15	0.5	37	1.2	29	0.9	52	1.7	53	1.7	201	6.5
Yale	12	0.4	6	0.3	14	0.4	16	0.5	23	0.7	20	0.6	31	1.0	122	3.9
Total[1] by year	309	9.9	309	9.9	364	11.7	443	14.2	508	16.3	613	19.7	569	18.3	3,115	100.0

[1] All total percents have been rounded. [2] Incomplete data.

students attending the schools. Basically, however, degree programs have been considered to fall into two major categories: Those which prepare generalists like the master of public health, and other degree programs which prepare specialists like the master of science. Fry et al., nonetheless, have observed in this light that even in this respect there is some confusion concerning the training programs for the academic-specialist degrees and for the professional-generalist degrees awarded by the schools, and claim that often schools seem to be trying to achieve the same objectives through these two types of programs.[7] Generally, however, as indicated below, a substantial majority of graduates from schools of public health have pursued programs leading to the M.P.H. degree rather than to an academic-specialist degree.

Three-fourths of all respondents, 2,346 or 75.3 percent, had obtained an M.P.H.; 198 or 6.4 percent noted an M.S.P.H.;[8] 196 or 6.3 percent an M.S. Hygiene; 173 or 5.6 percent an M.H.A or M.S.H.A.; and 202 or 6.5 percent had received some other master's degree such as an M.S. (see table 5:2).

Master of Public Health Degree.—All American schools of public health award the M.P.H. degree. Among respondents from 10 of the 11 schools covered by this study, the M.P.H. was the degree most frequently obtained; the exception was among Pittsburgh respondents who noted the M.S. Hygiene. Almost all respondents graduating from Yale and Michigan received an M.P.H.; in the Minnesota group was the lowest percent of respondents from any school receiving an M.P.H. degree.

Among those with the M.P.H. degree, 51.7 percent earned this degree between 1964 and 1967. A higher percent of the respondents in all schools earned their M.P.H. degrees in 1964–67 than in 1961–63, but the increase was particularly evident in the UCLA group. Although 68.7 percent of the respondents from UCLA earned the M.P.H. degree, of those receiving this degree only 8.0 percent completed their studies prior to 1964 in contrast to 60.7 percent who received their degrees between 1964 and 1967.

Better than four out of five of the respondents from the following schools reported earning the M.P.H. degree: Yale (99.2 percent), Michigan (99.1 percent), Berkeley (97.7 percent), Hopkins (90.6 percent), and Tulane (89.4 percent). Less than one-half of the respondents from Columbia (47.5 percent), Pittsburgh (43.9 percent), and Minnesota (39.4 percent) received this degree. Roughly two-thirds of the respondents from UCLA (68.7 percent), Harvard (65.5 percent), and North Carolina (66.2 percent) also received the M.P.H. degree.

The greatest number of M.P.H. degrees was received by Michigan graduates, 560 or almost one in four (23.9 percent) of all the M.P.H. degrees received by all the respondents from the 11 schools. Nearly three out of five respondents received their degrees from three schools—Michigan

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[7] Fry, H. G., et al., *Education and Manpower for Community Health*, Pittsburgh: University of Pittsburgh Press, 1967, pp. 80–82.

[8] See footnote 9.

TABLE 5:2.—*Types of master's degrees received by respondents graduating from eleven schools of public health, years 1961–67*

Master's degrees	Berkeley	UCLA	Columbia	Harvard	Hopkins	Michigan	Minnesota	North Carolina	Pittsburgh	Tulane	Yale	Total
M.P.H.:												
Number	501	138	122	148	163	560	124	306	79	84	121	2,346
Percent	97.7	68.7	47.5	65.5	90.6	99.1	39.4	66.2	43.9	89.4	99.2	75.3
M.S.P.H.:												
Number	1	47	3	0	1	1	33	111	0	1	0	198
Percent	0.2	23.4	1.2	0.0	0.6	0.2	10.5	24.0	0.0	1.1	0.0	6.4
M.S Hygiene:												
Number	0	1	0	77	8	2	0	0	100	8	0	196
Percent	0.0	0.5	0.0	34.1	4.4	0.4	0.0	0.0	55.6	8.5	0.0	6.3
M.H.A., M.S.H.A.:												
Number	0	0	54	0	0	1	118	0	0	0	0	173
Percent	0.0	0.0	21.0	0.0	0.0	0.2	37.5	0.0	0.0	0.0	0.0	5.6
Other master's:												
Number	11	15	78	1	8	1	40	45	1	1	1	202
Percent	2.1	7.5	30.4	0.4	4.4	0.2	12.7	9.7	0.6	1.1	0.8	6.5
Total:[1]												
Number	513	201	257	226	180	565	315	462	180	94	122	3,115
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Due to rounding error, totals may not add to 100.0 percent.

(560), Berkeley (501), and North Carolina (306)—which together accounted for a total of 1,367 M.P.H. degrees, or 58.3 percent of all such degrees.

Master of Science in Public Health Degree.—In fact, North Carolina is the only school of public health which offers the M.S.P.H. degree. Nonetheless, in addition to 111 respondents from North Carolina reporting that they had received this degree, 87 respondents from seven other schools also claimed to have the M.S.P.H.[9]

Among North Carolina graduates who received this degree 69 or 62.2 percent completed their studies between 1964 and 1967. Almost one-fourth (24.0 percent) of all the degrees received by North Carolina respondents were the M.S.P.H.

Master of Science in Hygiene Degree.—The M.S. Hygiene degree is awarded by Harvard, Pittsburgh, and Tulane. However, one respondent from UCLA, two from Michigan, and eight from Hopkins also reported receiving the M.S. Hygiene degree. Of the 196 individuals who reported they had received the M.S. Hygiene degree, 100 or 51.0 percent were Pittsburgh graduates and 77 or 39.3 percent were Harvard graduates. Thus, together Pittsburgh and Harvard respondents reported 90.3 percent of these degrees.

Over one-half (55.6 percent) of all the degrees noted by Pittsburgh graduates, over one-third (34.1 percent) of all the degrees received by Harvard graduates, and one in 12 (8.5 percent) of all the degrees received by Tulane graduates were the M.S. Hygiene. Between 1964 and 1967, 66.8 percent of the 177 respondents from Harvard and Pittsburgh received their M.S. Hygiene degrees.

Master of Hospital Administration or Master of Science in Hospital Administration Degrees.—Both Michigan and Minnesota actually offer a master of hospital administration degree, and Columbia offers a master of science in hospital administration degree. With the exception of one Michigan graduate, only Minnesota and Columbia respondents reported receiving M.H.A. or M.S.H.A. degrees. Of the 173 or 5.6 percent of all respondents who earned these degrees, Minnesota was the source of 118 or 68.2 percent.

Nearly as many respondents from Minnesota received an M.H.A., 118 or 37.5 percent, as the M.P.H., 124 or 39.4 percent. Some 54 or slightly over one-fifth (21.0 percent) of Columbia respondents received a M.S.H.A. Of all the M.H.A. or M.S.H.A. degrees reported, 59.5 percent were awarded between 1964 and 1967.

Other Master's Degrees.—All schools offer some type of "other master's" degree in addition to the types of master's degrees specified above. At least one respondent from each school received some "other master's" degree. In this category may be included specific master's titles awarded only by a particular school such as the master of science in administrative medicine offered by Columbia, the master of science in sanitary engineering offered by North Carolina, and the master of industrial health offered by Harvard, or degrees which may not be offered by the school of public health itself but through a department of the graduate school of the university, as for example, degrees other than the M.P.H. from Yale or other than the M.P.H. or M.H.A. from Michigan.

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[9] Respondents from schools other than North Carolina who indicated they had received an M.S.P.H. were in error. It is likely that such respondents designated M.S.P.H. when the degree received was an M.S. which would have been appropriately recorded as "other master's."

"Other master's" accounted for 6.5 percent of all the degrees reported. The 78 respondents from Columbia, 45 from North Carolina, and 40 from Minnesota together reporting such degrees comprised 80.7 percent of all such titles. Of all the respondents from Columbia, 30.4 percent reported that they had received an "other master's" degree. Only one respondent from each of the following five schools had been awarded such a degree: Harvard, Michigan, Pittsburgh, Tulane, and Yale.

IN SUMMARY, since 1961 the annual number of graduating respondents was irregular with increases and declines also being noted although almost twice as many graduated in 1967 as in 1961 and in 1962. During the 7-year period covered by the study, the most frequently earned degree by respondents from all schools, with the exception of Pittsburgh, was the M.P.H. degree.

In general, it appears that respondents from individual schools tended to cluster in one or two kinds of master's degrees. Respondents from Berkeley, Hopkins, Michigan, Tulane, and Yale had received primarily M.P.H. degrees; in addition, almost one-fourth of the North Carolina respondents received an M.S.P.H. degree, and one-third of the Harvard respondents the M.S. Hygiene degree. Among graduates from Pittsburgh the M.S. Hygiene degree was the most prevalent, and among Minnesota respondents the M.H.A. degree was almost as common as the M.P.H. Other degrees like the M.S. were received only by small numbers of respondents.

DEMOGRAPHIC CHARACTERISTICS

Age

Since respondents were requested to give their *current* ages, the following observations pertain to the characteristics of public health workers rather than to the characteristics of students entering or completing their training in schools of public health. The age of respondents both within individual schools and between the various schools is influenced by such considerations as admission requirements with respect to previous years of training and experience, types of programs and degrees offered, and the number of years lapsed since graduation.

Among graduates from five schools—UCLA, Minnesota, North Carolina, Pittsburgh, and Yale—the most frequently reported ages were between 26 and 35 years, and among graduates from the other six schools —Berkeley, Columbia, Harvard, Hopkins, Michigan, and Tulane—the most frequently reported ages were between 31 and 40. The largest group of respondents, 828 or 26.6 percent, was between ages 31 and 35 (see app. D, table 2, pp. 274–275).

Almost one-half (48.4 percent) of all respondents were 35 years old or under in the summer and early fall of 1968 when the survey was conducted. Conversely, over one-half (51.4 percent) were 36 years old and over. More than two-thirds (68.2 percent) reported being 40 years old or under. Over one-half of the respondents from UCLA (52.3 percent), Minnesota (63.2 percent), North Carolina (56.4 percent) and Pittsburgh (55.5 percent) were 35 years old or under. One-third of Hopkins respondents (33.3 percent) and 38.3 percent, respectively, from both the Berkeley and the Tulane groups also were 35 years of age or under. Better than three-fourths of the Harvard group (78.3 percent) and of the Minnesota group (78.8 percent) were 40 years old or under. Of the Harvard graduates 90.2 percent were 45 years old and under as were 89.6 percent of the Minnesota graduates, compared to 77.3 percent among the Berkeley and 77.7 percent among the Hopkins groups.

The number of respondents in the group 51 years of age and over was more than twice that of respondents 25 years of age and under; 7.9 percent of all respondents were 51 years of age and over compared to 3.1 percent who were 25 years old and under. In the age group 56 and over were 74 or 2.4 percent of all respondents.

Over one-fourth (26.0 percent) of all respondents 25 years old and under, and over one-fifth (21.2 percent) of all those between 26 and 30 years old were from North Carolina. In the age group 25 years old and under, none of the respondents was from Hopkins and only 1.0 percent in this age group was from Tulane. In the 31- to 35-year-old group 20.8 percent and in the 41- to 45-year-old group 19.6 percent were from Michigan. In the 36–40 age level 19.0 percent were from Berkeley. Also, 22.2 percent of all respondents between ages 51 and 55, and 31.1 percent of all those age 56 and over were from Berkeley.

The sharpest distinctions noted in the distributions of age groups by schools were the comparatively high percent (7.5 percent) of UCLA graduates who were 25 years old and under; the comparatively high percent of Minnesota graduates (35.6 percent) who were age 30 and under; the relatively high percent from Minnesota (63.2 percent) who were 35 years old and under; and the relatively high percents within the Harvard group (90.2 percent) and within the Minnesota group (89.6 percent) who were age 45 and under. By contrast, within the Berkeley group, 77.3 percent and within the Hopkins group, 77.7 percent were age 45 and under.

IN SUMMARY, among the UCLA, Minnesota, North Carolina, Pittsburgh, and Yale respondents the largest groups tended to be between 26 and 35 years old, while among the Berkeley, Columbia, Harvard, Hopkins, Michigan, and Tulane respondents the largest groups tended to be between 31 and 40 years old. Among respondents from all schools, the percents of respondents declined steadily starting with the age group 41–45 through ages 56 and over. Thus, the bulk of the respondents were 40 years old and under, although there were relatively smaller numbers of those in the youngest age level 25 years old and under, than in the oldest, 51 years old and over.

Sex

Better than two-thirds of all respondents (2,104 or 67.5 percent) were men. In all the schools men predominated in numbers over women. A total of 993 women or 31.9 percent were included in the total population. Proportionately there were more men in the Harvard group (84.1 percent) than in any other school, while the highest percents of women were, respectively, among the Michigan (38.1 percent) and the North Carolina (37.2 percent) groups. In the Harvard group at least four out of every five graduates were men; and in the Michigan and North Carolina groups where the highest percents of women were found, men also exceeded women since three out of every five graduates were men (see app. D, table 3, p. 275).

There were more men than women within every age group except in the 51- to 55-year-old group and there were as many men as women in the 56 years and over group. Within the age group 51–55, the percent of women was 56.7 percent compared to 40.9 percent among men, and as noted above among respondents 56 years of age and older there was an equal percent of men (50.0 percent) to women (50.0 percent). In the age group 31–35 years old was the most sizable discrepancy in the ratio of men (77.8 percent) to women (21.7 percent).

The distribution of respondents by sex among graduates from the various schools appears to be affected both by career opportunities and the types of major programs offered by the schools—chiefly, the offerings of training in Public Health Nursing which attracted women almost exclusively, and of Medical Care/Hospital Administration/Administrative Medicine, Aviation Medicine, and Environmental Health/Public Health Engineering/Sanitary Science, which attracted mainly men. The extent to which admission policies and programs attract comparatively large numbers of physicians in the student body also results in larger proportions of men than women. The age distribution and the age by sex distributions bear upon the capacity, public health manpower pool, and the career span of graduates. Thus, since proportionately the women respondents tend to be older than the men, a greater proportion of the women than of the men can be expected to retire sooner from the labor force. Among the men the proportion of respondents from age 25 and under to age 40 was 73.6 percent; 57.2 percent of the women were in that age range. An additional sex-linked consideration which affects career opportunities and utilization of public health manpower is that among persons obtaining public health training men comprise a much larger group than women.

In the age group 25 and under the percent of women (3.6 percent) was slightly higher than that among men (2.8 percent). Equal percents of men (19.0 percent) and women (18.6 percent) were in the 26- to 30-year-old group. However, the percent of men in the 31- to 35-year-age group (30.6 percent) was better than one and a half times that of women (18.1 percent), and proportionately also, there were more men (21.2 percent) than women (16.9 percent) in the 36- to 40-year-old age group. The percent of women (17.0 percent) exceeded that of men (13.3 percent) in the 41- to 45-year-age group and continued to be higher than that of men in older age groups. The highest percent of men in any age group was in the 31- to 35-year-old group; after this age level the percents of men declined. The age distribution of women increased in the 26- to 30-year-old group and remained more or less at the same level through age 45 when it started to decline, yet remaining higher than the percents of men in the older age groups.

In summary, over two-thirds of all the respondents were men, and overall the men were younger than the women. One-half of the respondents were 36 years old or over at the time of the survey; with the number of those 51 years old and over being more than twice those 25 years old and under. Over two-thirds were 40 years old or younger. The highest percent of youngest respondents, age 25 and under, were from North Carolina; none of the respondents from Hopkins was in this age group. Over one-fifth of all respondents between ages 51 and 55, and better than three-tenths of those age 56 and over were from Berkeley. In effect, the oldest populations were in the Hopkins and Berkeley groups. The highest percent of men was among Harvard respondents and the highest percents of women were among the North Carolina and Michigan groups; yet men predominated in the population of all the schools.

EDUCATION AND EXPERIENCE BEFORE ENTERING A SCHOOL OF PUBLIC HEALTH

Highest Professional or Advanced Degree

Bachelor's Degree.—For 1,791 or 57.5 percent of all respondents, the highest degree received prior to enrollment in a school of public health was a bachelor's degree. The second largest group by highest professional or advanced degree was 21.1 percent among those with an M.D. degree.

Graduates from all 11 schools included persons whose highest degree was a baccalaureate. At the upper range, 83.2 percent of the respondents graduating from Minnesota and 78.4 percent from North Carolina began their graduate work in public health at that educational level; among the respondents from these two schools also were found relatively large numbers of nurses. At the lower extreme, only 7.5 percent of the Harvard respondents indicated that their highest degree prior to enrollment was a bachelor's; among the Harvard graduates better than two-thirds had M.D. degrees.

Over one-half of the respondents from seven of the schools reported that their highest degree prior to entering training in a school of public health was a bachelor's: Minnesota (83.2 percent), North Carolina (78.4 percent), Yale (65.6 percent), Michigan (65.3 percent), Pittsburgh (64.4 percent), UCLA (61.2 percent), and Columbia (51.0 percent). The bachelor's degree was the most frequently reported highest degree held prior to enrollment by respondents graduating from nine of the 11 schools: Berkeley, UCLA, Columbia, Michigan, Minnesota, North Carolina, Pittsburgh, Tulane, and Yale.

Respondents indicating that a bachelor's degree was the highest degree held were asked to specify the field of study pursued for this degree. The answers given by 1,827 [10] respondents who replied to this question fell largely into nine major categories as shown in the following distribution:

Major field of undergraduate study reported by respondents with a bachelor's as highest degree prior to attending a school of public health

	Number
Science (including biology, zoology, chemistry, physics, and bacteriology), mathematics and statistics	539
Nursing	389
Behavioral and social sciences (including psychology, sociology, anthropology, economics, political science, and government)	192
Business administration and related areas (including marketing, accounting, commerce, and management)	106
Engineering	105
Education	94
Nutrition	84
Public health and health	63
All other	255

Thus, although persons entering a school of public health with a bachelor's degree may have a wide variety of backgrounds, their undergraduate training was in a field either allied or directly related to health. Only small numbers of bachelor's holders entered training in public health from fields that were neither allied nor directly related to health; e.g., liberal arts and philosophy, music/fine arts, and theology.

M.D. Degree.—A total of 657 or 21.1 percent of all respondents had an M.D. degree prior to entering a school of public health. Respondents with M.D. degrees were found among graduates from all 11 schools.

The M.D. degree was most frequently reported as the highest earned degree by respondents from two schools: 68.6 percent of the 226 Harvard group and 61.7 percent of the 180 Hopkins respondents. The M.D.'s from these two schools together with those from Berkeley (153) comprised 63.8 percent of all respondents who held this degree. Over one-fifth of the respondents from Berkeley (29.8 percent), Tulane (22.3 percent), Columbia (21.8 percent), and UCLA (20.9 percent) also held M.D.'s. The lowest percents of M.D.'s were among respondents from Yale (16.4 percent), Pittsburgh (9.4 percent), Michigan (8.0 percent), North Carolina (6.1 percent), and Minnesota (2.9 percent).

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[10] N=1,827 (100.0 percent), based on hand count of responses. There was a discrepancy of 36 or 1.0 percent between the hand and the automated count.

Master's Degree.—A master's degree was indicated as the highest degree held prior to enrollment in a school of public health by 364 or 11.7 percent of all respondents. Respondents with a master's degree prior to attending a school of public health were also found in all 11 schools. A master's degree prior to enrollment was more frequently reported among respondents from Pittsburgh (18.3 percent), Columbia (16.3 percent), Michigan (14.5 percent), Berkeley (13.8 percent), and UCLA (12.9 percent).

D.D.S. Degree.—Only 106 or 3.4 percent of all respondents indicated that they had a D.D.S. degree prior to entering a school of public health. The highest percent of respondents with a D.D.S. was among the Columbia respondents (6.2 percent). D.D.S. holders were found among graduates from all 11 schools; however, 72.6 percent of all respondents holding such a degree attended four schools: Columbia, Michigan, Berkeley, and North Carolina.

D.V.M. Degree.—Eighty-three respondents or 2.7 percent reported having a D.V.M. degree before their enrollment in a school of public health. There were persons with D.V.M. degrees among respondents from all schools. The highest percent of respondents with the D.V.M. degree was found in the Tulane group (12.8 percent); the lowest percents were among Berkeley (1.2 percent), North Carolina (1.1 percent), and UCLA (1.0 percent) graduates. Over one-half of the D.V.M. holders (56.6 percent) had attended Michigan, Tulane, and Minnesota.

Ph. D., Sc. D., Ed. D., and Other Doctoral Degrees.—Those with a Ph. D., Sc. D., Ed. D., or other doctorate prior to enrollment comprised only 57 or 1.8 percent of the study population. The respondents in this category, however, were found in all 11 schools. In the Harvard (17 or 29.8 percent) and in the Berkeley (9 or 15.8 percent) groups were, respectively, the largest numbers of respondents having these degrees.

Other Degree.—Only 12, or 0.4 percent of all respondents from four schools—Berkeley, Michigan, Minnesota, and North Carolina—indicated they held some "other degree" than as specified above prior to their enrollment in a school of public health.

IN SUMMARY, the largest number of respondents (57.5 percent) reported that a baccalaureate was the highest degree held prior to attending a school of public health; bachelor's degree holders were a majority of respondents in seven schools and a plurality in two other schools. The M.D. degree was the next most frequently reported degree held; M.D.'s were in the majority in two schools. In addition, 3.4 percent had a D.D.S. degree, and another 2.7 percent a D.V.M. An even smaller group held a Ph. D., Sc. D., an Ed. D., or other doctorate. Cumulatively, respondents with all types of doctorates totaled 29.0 percent of all respondents, while those with master's degrees comprised 11.7 percent of the total study population. In total, 40.7 percent of all respondents reported having a higher degree than a bachelor's degree prior to enrollment. These findings suggest that except for holders of a medical degree, persons with other doctorates do not appear to be attracted or encouraged to pursue a master's degree in schools of public health, and that a master's degree in public health is attractive to persons with only a bachelor's degree and to a lesser extent, to persons already holding a master's.

The findings also confirm both the marked heterogeneity and parameters which characterize the previous preparation—level, scope, and direction—of persons who enroll in a school of public health both for those who enter seeking their first graduate degree and for those for whom public health training is a second career.

Primary Professional Discipline

As indicated by the data on highest professional or advanced degree received by respondents prior to entering a school of public health, public health workers were drawn into this field from a variety of disciplines, specialty interests, and educational levels. In order to tap their specific backgrounds, respondents were asked to identify their primary professional discipline prior to enrollment in a school of public health. A list of 24 specific professions derived from the American Public Health Association's Student Census Card filled out at the time of registration in a school of public health was used for this purpose. Those graduates who did not have a primary profession before entering a school of public health were instructed to check the category "nonapplicable."

Better than four out of five respondents, 2,605 or 83.6 percent, designated themselves as having a specific primary professional discipline prior to enrollment in a school of public health; thus, by and large, their public health training was received on an already acquired professional base and identity. The primary professional disciplines of respondents were, on the whole, related to health. A total of 357 or 11.5 percent of the study population indicated by a *nonapplicable* response that they had no primary professional identification prior to their enrollment in a school of public health; 112 or 3.6 percent indicated "other," nonspecified professional disciplines, and 41 or 1.3 percent did not answer.

The most frequently reported primary professional discipline was physician; 604 or 19.4 percent designated themselves as such, not including psychiatrists who comprised an additional 35 or 1.1 percent of all the respondents. Nurses, with 467 or 15.0 percent of all respondents, comprised the second largest professional group. Although other major health professions engaged in direct personal care were in very small numbers, such as dentists (106 or 3.4 percent) and physical therapists (45 or 1.4 percent), overall, 40.3 percent of all respondents identified themselves as members of the above five mentioned direct personal health care professions.

Physicians, excluding psychiatrists, comprised the highest percents of respondents by primary professional discipline from four schools: Harvard (62.4 percent), Hopkins (58.9 percent), Berkeley (29.4 percent), and Columbia (16.7 percent). The lowest percent of physicians was in the Minnesota group (2.5 percent). Nurses comprised the highest percents of respondents by primary professional discipline from four schools: Minnesota (27.9 percent), Michigan (22.7 percent), Tulane (22.3 percent), and North Carolina (16.9 percent). The lowest percent of nurses (0.9 percent) was in the Harvard group. In the remaining three schools, the highest percents of respondents were within the "nonapplicable" category: Yale (22.1 percent), UCLA (20.9 percent), and Pittsburgh (17.8 percent); among the respondents from these three schools were also high percentages of persons indicating that their most advanced degree was a baccalaureate.

The primary professional disciplines noted by respondents from all schools were: Administrator or hospital administrator, bacteriologist, laboratory scientist or parasitologist, dentist, teacher or educator, mathematician, statistician or programer, nurse, physician (excluding psychiatrist), and veterinarian.

There were primary professional disciplines not noted by any respondents from certain schools. Among Berkeley graduates there were no physicists, radiological health specialists, or health physicists; among UCLA graduates there were no engineers or physiologists; and, among Columbia graduates, no industrial hygienists, physiologists, or behavioral scientists (anthropologists, psychologists, sociologists, or other). Neither health educators, physical therapists, nor sanitarians were reported among Harvard graduates. In the Hopkins group, biologists, entomologists or zoologists, dietitians or nutritionists, health educators, industrial hygienists, physical therapists, physiologists, behavioral scientists (other than psychologists), and social workers were not reported. Physiologists and anthropologists were not noted in the Michigan group. Among Minnesota graduates were not found industrial hygienists, physiologists, psychiatrists, or behavioral scientists (anthropologists, sociologists, psychologists, or other). Among North Carolina graduates, physiologists and anthropologists were not noted; and among Pittsburgh graduates no health educators, physical therapists, physiologists, anthropologists, and sociologists were reported. Chemists or biochemists, dietitians or nutritionists, industrial hygienists, physicists, radiological health specialists or health physicists, physiologists, or social workers were not found in the Tulane group. Among the Yale respondents there were no chemists or biochemists, dietitians or nutritionists, engineers, industrial hygienists, physical therapists, anthropologists, or psychologists. The absence of these categories of professional disciplines suggests that although public health workers as a whole came from a variety of professional backgrounds, there was a selectivity factor or concentration of only certain primary professional disciplines within specific schools.

Together with the distribution of respondents by primary professional discipline, the findings above connote patterns of recruitment and selection, program emphasis, as well as the attraction that schools themselves exercise for students of certain backgrounds. Thus, most frequently, respondents with a primary professional background in administration or hospital administration (20.9 percent) and in mathematics, statistics, or programing (16.9 percent) had been to Columbia; and the largest group of bacteriologists, laboratory scientists or parasitologists (24.8 percent), dentists (29.2 percent), health educators (28.2 percent), mathematicians, statisticians, or programers (16.9 percent just as Columbia), nurses (27.4 percent), sanitarians (30.4 percent), and veterinarians (26.8 percent) had attended Michigan. The largest group of biologists, entomologists, or zoologists (32.0 percent), chemists or biochemists (22.0 percent), dietitians or nutritionists (27.5 percent), educators or teachers (33.0 percent) and engineers (35.5 percent) had attended North Carolina, while the largest group of physicians, excluding psychiatrists (25.0 percent), and social workers (31.4 percent) had been to Berkeley.

Within the total spectrum of the primary professional disciplines of respondents, the mental health and related disciplines appear particularly small in number. Only 149 or 4.7 percent of all the respondents came from a primary professional discipline either usually identified with or allied to mental health. Included in this category were 35 psychiatrists (1.1 percent), 23 psychologists (0.7 percent), 10 sociologists (0.3 percent), six anthropologists (0.2 percent), 70 social workers (2.2 percent), and five other behavioral scientists (0.2 percent).

Of the 35 psychiatrists, 19 had attended Columbia or Harvard, and the largest number of psychologists (nine of 23) attended Harvard. The majority (57.1 percent) of respondents identifying social work as their primary professional discipline attended Berkeley or Michigan. A total of 24 of the 44 behavioral scientists had attended Berkeley or Harvard.

In summary, over four-fifths of all the respondents indicated that they had a primary profession prior to attending a school of public health. The largest professional groups were, respectively, physicians and nurses. There was a clear association between the primary professional disciplines of respondents and the schools of public health attended.

Furthermore, although a large majority of respondents had been trained or had experience in a primary professional discipline related to health prior to entering a school of public health, only a very small group was identified with a mental health profession or with an academic discipline related to mental health. Respondents from mental health-related professional or disciplinary backgrounds attended primarily the schools of public health at Harvard and Columbia (psychiatrists); Harvard and Berkeley (psychologists); Berkeley and Harvard (behavioral scientists, excluding psychologists); and Berkeley and Michigan (social work).

Professional Experience in Public Health Prior to Enrollment in a School of Public Health

Almost two-thirds (63.8 percent) of all respondents had professional work experience in the field of public health before their enrollment in a school of public health. Better than one-third (38.0 percent) indicated that their professional work experience had ranged from less than 1 year to 4 years. One of four respondents (25.8 percent) had worked in public health for 5 or more years before they enrolled for a master's degree; 15.1 percent had from 5 to 9 years and 10.7 percent had 10 or more years of such previous professional experience. The most frequently reported period of experience was between 1 and 4 years, 31.9 percent of respondents having so indicated. Cumulatively, over one-half of all respondents (53.1 percent) reported up to 9 years of work experience prior to entering a school of public health. The highest percents of respondents with any professional experience in public health prior to attending a school of public health were, respectively, from Michigan (77.3 percent) and from Hopkins, (70.5 percent); those with least experience had attended UCLA (43.9 percent). Whereas 34.0 percent of the respondents had no professional experience before entering a school of public health, over one-half (52.7 percent) of the respondents who attended UCLA and more than 40.0 percent of the respondents from Yale (44.3 percent), Harvard (44.2 percent), and Pittsburgh (43.9 percent) did not have any such experience.

For the period 1961–63, 30.8 percent of respondents indicated no professional public health experience prior to enrollment; during the period 1964–67, the percent of respondents without such experience increased to 35.4 percent. This increase is consistent with the tendency toward broadening the base of admissions to include students without previous professional work experience in the field, although still at the time of this study the large majority of respondents had worked in the field prior to pursuing their master's degree.

(a.) Age—In the younger age groups, 79.2 percent of respondents age 25 and under and 52.2 percent of respondents in the ages 26–30, respectively, had no professional public health experience before attending a school of public health. The percent of respondents with no previous professional experience lessened with increasing age. The largest groups of respondents 31–35 years old (45.0 percent) and 36–40 years old (31.7 percent) had from 1 to 4 years of experience. In the age group 41–45 years old, however, the largest group of respondents (28.0 percent) had not had public health experience prior to their enrollment. In the older age groups starting with age 46 the highest percents of respondents were those with 1 or more years of experience.

(b.) Sex—Proportionately, larger groups of men than of women reported no prior public health work experience, less than 1 year of such experience prior to entering a school of public health, as well as 1–4 years of experience. However, the percent of women (34.8 percent) with 5 or more years of experience exceeded the percent of men with a similar length of experience (21.3 percent). These differences in length of experience between men and women may be related to age since the women respondents were older than the men. Also, the fact that experienced nurses comprise a relatively large group and concentrate in the female population further account for the relatively greater experience among women.

(c.) Primary Professional Discipline—The number of years of experience in public health prior to attending a school of public health is also related to the primary professional disciplines of the respondents. More than one-half of the dietitians and nutritionists (60.4 percent), educators and teachers (55.7 percent), biologists, entomologists, and zoologists (60.0 percent), and chemists and biochemists (64.0 percent) had no such experience prior to entering a school of public health. However, more than one-half of the engineers (54.2 percent) and of the health educators (57.6 percent) had between 1 and 4 years such experience. Nurses tended to have had between 1 and 4 (31.0 percent) and 5 and 9 (28.2 percent) years of experience. Among physicians (excluding psychiatrists) almost as many had not had public health experience (35.6 percent) as those who had between 1 and 4 years (37.1 percent) of experience, while psychiatrists generally had not had any public health experience.

The amount of experience prior to enrollment is also a reflection of the varied admission requirements and inducements maintained by the individual schools, and specifically of the requirements for the different degree programs that they offer. The opportunities that are currently available for the support of formal training in public health are incentives for additional training and career development. Furthermore, the admission criteria established by the Committee on Professional Education of the American Public Health Association also bear on this issue. The Committee requires as a minimum a bachelor's degree and specifies the criteria for admission to two types of master's degrees in public health.[11] One type of master's degree is for the public health specialist or scientist, which includes the M.S. Hyg., M.S.P.H., M.S., and M.A., and has the following admission requirements:

> Admission should be limited to holders of the bachelor's degree with adequate preparation in the biological, physical, or social sciences, or combinations thereof; they should meet admission standards equivalent to those required of candidates matriculating for an equivalent master of science degree in other parts of the university.[12]

This criterion does not require any previous professional preparation or previous experience in the field.

Admission requirements for the master's degree for the public health generalist or administrator which includes the M.P.H. or the D.P.H. (diplomate in public health awarded by Canadian schools) state that:

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[11] American Public Health Association, Committee on Professional Education, "Criteria and Guidelines for Accrediting Schools of Public Health," *American Journal of Public Health*, 56: 1308–1318, August 1966.

[12] Ibid, p. 1313.

> An applicant should possess:
>
> 1. A graduate degree, from an acceptable institution, in a discipline relevant to public health, or
> 2. A bachelor's degree, from an acceptable institution, with substantial knowledge in a discipline relevant to public health either through study or experience or a combination of these.[13]

Thus, applicants seeking an M.P.H. (or D.P.H.) are expected to have had training relevant to public health and/or experience in order to gain admission for training for this graduate degree.

In summary, nearly two-thirds of all respondents had professional public health experience before entering a school of public health, with the most frequently reported periods of experience ranging between 1 and 4 years. The highest percent of respondents with professional public health experience prior to attending a school of public health was from Michigan; the lowest from UCLA. Although among younger respondents there were higher percents who had not had professional public health experience prior to attending a school of public health, increasing age was not a consistent factor in determining the years of previous experience in the field. Women were more likely than men to have had such experience, possibly both because women were older and within the female population there was a high percent of professional nurses who went to a school of public health. Respondents from certain primary professions; i.e., dietitians and nutritionists, educators and teachers, biologists, entomologists, and zoologists, and chemists and biochemists, however, tended not to have had public health experience before attending a school of public health. Furthermore, the American Public Health Association Committee on Professional Education criteria and guidelines for admissions to the schools for certain degrees also specify training and/or experience equivalencies required for the entry of candidates.

Mental Health Work Experience and Feeling of Need for Mental Health Training Prior to Entering a School of Public Health

Mental Health Work Experience Prior to Enrollment.—Relatively few respondents—three out of 10 (963 or 30.9 percent)—indicated that they had experience in mental health work prior to registering in a school of public health. In this regard, there was only a slight difference (2.0 percent) in percentage between those who graduated in 1961–63 (29.2 percent) and those who graduated in 1964–67 (31.2 percent).

Relative to the number of graduates who had professional public health experience prior to entering a school of public health (63.8 percent), the percent of those who had experience in mental health work was in fact less than one-half.

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[13] Ibid, p. 1314.

Overall, the highest percent of respondents with any kind of mental health work experience before studying public health, 38.6 percent, was in the Berkeley group and the lowest, 23.6 percent in the North Carolina group, followed by 25.1 percent within the Minnesota and 25.5 percent within the Tulane groups. One-half of all respondents (50.1 percent) who had mental health work experience attended three of the 11 schools: 198 or 20.6 percent went to Berkeley, 175 or 18.2 percent went to Michigan, and 109 or 11.3 percent attended North Carolina.

(a.) Age—The percents of respondents with experience in mental health work prior to entering a school of public health increased progressively up to age 51–55 (46.8 percent), and declined in the age group 56 years and over (40.5 percent). The lowest percent with mental health experience before entering a school of public health was among respondents 25 years and under (9.4 percent).

(b.) Sex—Proportionately, more respondents among the women (43.9 percent) than among the men (24.5 percent) had done mental health work prior to going to a school of public health.

(c.) Primary Professional Discipline—Among nurses (62.1 percent) and among social workers (84.2 percent) were the highest percents of respondents who indicated having had mental health experience before entering a school of public health. Among physicians, three out of five (59.4 percent) had not had any mental health work experience prior to attending a school of pubic health. Also, most, but not all of the psychiatrists had experience in mental health work prior to attending a school of public health.

Feeling of Need for Mental Health Training.—Respondents without experience in mental health work prior to enrollment in a school of public health were asked to indicate if they had felt a need for mental health training before attending a school of public health. Of the 2,139 respondents without mental health work experience 651 or 30.4 percent indicated that they had felt a need for mental health training. A large majority of those who lacked mental health experience, 1,469 or 68.7 percent, felt no need for such training at a school of public health.

By school, among respondents without experience in mental health work, the highest percent to have felt a need for mental health training before enrollment was 44.3 percent from Tulane in contrast to 19.8 percent in the Yale group. Furthermore, among respondents without mental health work experience, a higher percent of those graduating in 1961–63 (31.9 percent) than among those graduating in 1964–67 (29.7 percent) felt a need for mental health training.

(a.) Age—Generally younger respondents without mental health work experience also indicated that they had not felt a need for mental health training prior to entering a school of public health. Among those respondents between 46 and 50 years old and among those 51–55 years old who had not had mental health work experience 44.4 percent and 49.4 percent, respectively, indicated that they had felt a need for mental health training. Among those age 56 years old and over 41.9 percent indicated having felt a need for such training; this was a higher percent than among respondents in each of the age groups up to 45 years of age.

(b.) Sex—Among the women, furthermore, a higher percent (39.8 percent) than among men (27.2 percent) reported that they had felt a need for mental health training before going to a school of public health.

In summary, mental health work experience was held by three out of 10 respondents before entering a school of public health; this was less than one-half the number of respondents who had public health experience prior to going to a school of public health. Among the Berkeley respondents was the highest percent of those who had done mental health work before studying in a school of public health; the lowest percent was in the North Carolina group. Those who had done mental health work prior to entering public health training increased proportionately with age up to those 55 years old. Proportionately also, more women than men had mental health experience, with the nurse and social worker groups, respectively, containing the highest percents of respondents with mental health experience.

Of those who did not have mental health experience, three out of 10 indicated that they had felt a need for mental health training before attending a school of public health. By school, among Tulane respondents was the highest and among Yale respondents the lowest percents who indicated feeling a need for mental health training. In the age group between 51 and 55 the highest percent indicated feeling a need for mental health training; also a higher percent of women than men indicated such a need.

MAJOR PROGRAMS OF STUDY

Respondents were asked to indicate the major program of study pursued during their training in a school of public health using a format identical to the 24 category major subject list on the APHA Student Census Card. A 25th category, "Other (specify)," was also included in the questionnaire.

Mental Health Program Majors

Mental Health was one of the least frequently reported majors. Only 60 or 1.9 percent of the total study population reported Mental Health, Administrative Psychiatry, Community Psychiatry as the major program area which they pursued during their training in a school of public health. (Subsequently these majors are referred to as Mental Health.) Respondents with Mental Health majors came chiefly from five primary professions:

21 were psychiatrists, 13 nurses, nine psychologists, six were physicians (excluding psychiatrists), and three social workers.

Of the 35 psychiatrists in the study population, 14 did not major in Mental Health, nor did 14 of 23 psychologists, and neither did 67 of 70 social workers. Members of mental health professions tended to obtain public health training in areas of emphasis other than Mental Health, such as administration. Also whereas in practice, nonpsychiatric physicians have been tapped for mental health work and in many instances mental health services are administratively within the purview of public health departments and general hospitals, nonpsychiatric physicians tended not to major in Mental Health but in such areas as Administration or Practice of Public Health, Maternal and Child Health, or Epidemiology. The majority of social workers majored either in Medical Care and Hospital Administration, Administrative Medicine or Social Work in Public Health while only a few majored in Mental Health.

The 60 respondents who majored in Mental Health attended nine of the 11 schools; none of these respondents attended North Carolina or Pittsburgh. Some 60 percent (60.0 percent) of those majoring in Mental Health graduated from three schools: Columbia (13), Harvard (12), and Hopkins (11); 30 of the respondents who majored in Mental Health reported they had received the M.P.H. degree, two the M.S.P.H., 12 the M.S. Hygiene, two the M.H.A. or M.S.H.A., and 14 an "other master's" degree.

Among 982 respondents graduating between 1961 and 1963, 14 (1.4 percent) reported a major in Mental Health; these respondents had graduated from five schools, eight of them attended Harvard. Respondents majoring in Mental Health constituted 2.2 percent of those who graduated between 1964 and 1967 (46 of 2,133); these respondents had studied in nine schools; 12 of them attended Columbia. Thus, the number of respondents reporting a Mental Health major increased by 32 from 14 who graduated in 1961–63 to 46 in 1964–67, and during this period the number of schools where they pursued a Mental Health major increased from five to nine.

Other Program Majors

The top five major programs pursued by respondents were: (1) Administration or Practice of Public Health (486 or 15.6 percent); (2) Medical Care and Hospital Administration, Administrative Medicine (415 or 13.3 percent); (3) Environmental Health, Public Health Engineering, Sanitary Science (320 or 10.3 percent); (4) Public Health Nursing (309 or 9.9 percent); and (5) Health Education (255 or 8.2 percent). These five majors were completed by 57.3 percent of the total study population. The least frequently reported major programs were Rehabilitation or Physical Therapy (2 or 0.1 percent), Physiological Hygiene or Environmental Medicine (5 or 0.2 percent), Population Studies, Family Planning, Demography (8 or 0.3 percent), Behavioral Sciences (9 or 0.3 percent), International Health (14 or 0.4 percent), Veterinary Public Health (16 or 0.5 percent), and Chronic Diseases or Gerontology (17 or 0.5 percent).

There were respondents in five major program areas in all the schools: Administration or Practice of Public Health, Biostatistics, Environmental Health/Public Health Engineering/Sanitary Science, Epidemiology, and Medical Care and Hospital Administration/Administrative Medicine.

Hopkins graduates reported having taken 19 different kinds of majors, those from Michigan 18, from Berkeley and Harvard 17 each, from UCLA, Columbia, North Carolina, and Tulane 15 each, from Minnesota and Yale 14 each, and from Pittsburgh 12.

Administration or Practice of Public Health was most frequently reported as their major by respondents from Berkeley (14.4 percent), Columbia (30.4 percent), Hopkins (22.8 percent), North Carolina (18.2 percent), and Tulane (23.4 percent). Medical Care and Hospital Administration, Administrative Medicine was the most frequently cited major by respondents from UCLA (25.9 percent), Minnesota (29.5 percent), Pittsburgh (20.6 percent), and Yale (34.4 percent). Thus, in nine of the 11 schools the most frequently reported major was either Administration or Practice of Public Health or Medical Care and Hospital Administration, Administrative Medicine. Respondents with other majors constituted higher percents at the two other schools: At Harvard, Aviation Medicine (22.1 percent), and at Michigan, Public Health Nursing (17.7 percent). Among respondents from Minnesota only 10.2 percent and Michigan 8.5 percent reported Administration or Practice of Public Health as their majors. Only two respondents from North Carolina and two from Tulane, and five each from Harvard and Hopkins had pursued a major in Medical Care and Hospital Administration, Administrative Medicine.

Environmental Health, Public Health Engineering, Sanitary Science was the major for 10.3 percent of the total group. The number of respondents with majors in Environmental Health, Public Health Engineering, Sanitary Science from North Carolina (17.5 percent), Michigan (15.8 percent), Minnesota (15.2 percent), and Tulane (13.8 percent) comprised 72.2 percent of all the respondents who majored in this area; although respondents from all the schools reported this major.

Public Health Nursing was the major for 9.9 percent of all respondents. A substantial majority of the Public Health Nursing majors (79.9 percent) graduated from three schools: Michigan (17.7 percent), Minnesota (25.7 percent), and North Carolina (14.3 percent).

Health Education was the major field of study for 8.2 percent of all respondents. Graduates from North Carolina and Berkeley comprised 57.6 percent of all majors in Health Education; of all the North Carolina respondents 16.7 percent and of all the Berkeley respondents 13.6 percent majored in this area.

As noted before, certain majors were not reported by any respondents from specific schools. Aviation Medicine was not reported by Michigan, Minnesota, Pittsburgh, or Yale graduates; Behavioral Sciences majors were not reported by UCLA, Columbia, Hopkins, Michigan, Minnesota, North Carolina, or Pittsburgh graduates. No graduates reported majoring in Chronic Diseases or Gerontology from Columbia, Harvard, Minnesota, North Carolina, Pittsburgh, or Tulane. Dental Public Health was not a reported major among Berkeley, UCLA, Hopkins, Pittsburgh, or Yale graduates. No majors in Health Education were reported by Harvard, Pittsburgh, or Tulane graduates. Majors in International Health were reported only by Hopkins, Michigan, and Tulane graduates. Among Columbia and Minnesota graduates no majors in Maternal and Child Health were reported, and as already mentioned, neither North Carolina nor Pittsburgh graduates reported majoring in Mental Health. Microbiology or Laboratory Public Health was not reported by Columbia or Minnesota graduates; and Nutrition or Biochemistry was not reported by Tulane or Yale graduates. There was no major in Occupational Health or Industrial Hygiene among Tulane graduates. Majors in Physiological Hygiene or Environmental Medicine were only reported by Harvard and Hopkins graduates; these also were the only two schools where graduates reported majors in Population Studies, Family Planning, Demography. Neither among the Harvard nor Yale graduates were there any majors in Public Health Nursing; neither were there any majors in Radiation Health in the UCLA or Tulane groups. Only in the UCLA and Minnesota groups were there majors, and only one each, in Rehabilitation or Physical Therapy. Social Work in Public Health was not a reported major among UCLA, Harvard, Hopkins, Minnesota, North Carolina, Tulane, or Yale graduates. Among Berkeley, UCLA, Michigan, Minnesota, and Pittsburgh graduates no majors in Tropical Medicine, Entomology, or Parasitology were reported, and Veterinary Public Health was only reported among the majors taken by Michigan, Minnesota, and Tulane graduates.

Furthermore, major programs reported tended to concentrate within certain schools with the effect that collectively, a majority of respondents with majors in:

(1) Administration or Practice of Public Health were graduates from Berkeley 15.2 percent, Columbia 16.0 percent, North Carolina 17.3 percent, and Michigan 9.9 percent—(58.4 percent).

(2) Aviation Medicine were graduates from Harvard—(52.1 percent).

(3) Biostatistics were graduates from North Carolina 19.7 percent, Michigan 19.0 percent, and Columbia 16.2 percent—(54.9 percent).

(4) Dental Public Health went to Michigan 62.7 percent.

(5) Environmental Health, Public Health Engineering, Sanitary Science went to Michigan 27.8 percent and North Carolina 25.3 percent—(53.1 percent).

(6) Epidemiology attended Berkeley 25.4 percent, Harvard 14.4 percent, and Hopkins 13.3 percent—(53.1 percent).

(7) Health Education went to North Carolina 30.2 percent and Berkeley 27.5 percent— (57.5 percent).

(8) Maternal and Child Health attended Berkeley 41.0 percent and Hopkins 16.5 percent— (57.5 percent).

(9) Medical Care and Hospital Administration, Administrative Medicine went to Minnesota 22.4 percent, Columbia 16.9 percent, and Berkeley 15.9 percent— (55.2 percent).

(10) Mental Health went to Columbia 21.7 percent, Harvard 20.0 percent; and Hopkins 18.3 percent— (60.0 percent).

(11) Microbiology, Laboratory Public Health attended Michigan 35.9 percent and Berkeley 21.9 percent— (57.8 percent).

(12) Nutrition, Biochemistry went to Berkeley 22.6 percent, North Carolina 20.0 percent, and Michigan 18.3 percent— (60.9 percent).

(13) Occupational Health, Industrial Hygiene attended Michigan 32.3 percent and Pittsburgh 18.3 percent— (50.6 percent).

(14) Public Health Nursing went to Michigan 32.4 percent and Minnesota 26.2 percent— (58.6 percent).

(15) Radiation Health went to Michigan 25.7 percent and North Carolina 24.3 percent— (50.0 percent).

(16) Tropical Medicine, Entomology, Parasitology went to North Carolina 39.4 percent and Harvard 18.2 percent— (57.6 percent).

Comparisons Between Mental Health and Other Program Majors

In this section the 60 respondents who majored in Mental Health are examined as a group and compared to other specific groups of respondents who majored in each of nine other program areas. For purposes of this comparison, only those major program areas identified by 100 or more respondents were considered. These nine major program areas include: Administration or Practice of Public Health, Biostatistics, Environmental Health/Public Health Engineering/Sanitary Science, Epidemiology, Health Education, Maternal and Child Health, Medical Care and Hospital Administration/Administrative Medicine, Nutrition/Biochemistry, and Public Health Nursing. For purposes of this comparison, 21 variables were selected (see table 5:3).

The modal *age* of respondents with Mental Health majors was 36–40 years old (26.7 percent); this was the same modal age as that of Public Health Nursing majors (19.1 percent). Mental Health majors exceeded the modal age of respondents in seven other major programs: Biostatistics (33.1 percent), Health Education (29.8 percent), and Nutrition/Biochemistry (34.8 percent) whose modal age was 26–30 years old, and Administration or Practice of Public Health (23.7 percent), Environmental Health/Public Health Engineering/Sanitary Science (34.7 percent), Epidemiology

(33.1 percent), and Medical Care and Hospital Administration/Administrative Medicine (28.9 percent) whose modal age was 31–35 years old. Maternal and Child Health majors (20.9 percent) were in the oldest modal age, 41–45 years old, in part both because of the large number of physicians and of women majoring in this area. The older modal age of Mental Health majors may be related also to the extended years of professional training and work experience of the 21 psychiatrists and of respondents with other doctoral degrees as well as of the 13 nurses in the group. As noted before, women in the study population were as a whole older than men, and this is related to the very large group of female nurses in the study population.

By *sex,* the percents of men in each of five majors were higher than in the Mental Health major group (63.3 percent): Administration or Practice of Public Health (76.1 percent), Biostatistics (71.7 percent), Environmental Health/Public Health Engineering/Sanitary Science (96.9 percent), Epidemiology (77.3 percent), and Medical Care and Hospital Administration/Administrative Medicine (86.3 percent).

The modal *highest degree prior to enrollment* in a school of public health was the M.D. degree for 43.3 percent of the Mental Health major group. Of the 27 physicians who majored in Mental Health, 21 were psychiatrists. The M.D. degree also was the modal degree for respondents with two other majors included in this comparison: For 72.7 percent of the Maternal and Child Health majors, and for 55.2 percent of the Epidemiology majors. For respondents with seven other majors, the bachelor's degree was the modal highest degree. Similarly, whereas 55.0 percent of the Mental Health majors reported having any kind of doctoral degree (M.D., D.D.S., Ph. D., Sc. D., Ed. D., or other doctorate), this percent was higher among Epidemiology majors (81.2 percent) and Maternal and Child Health majors (73.4 percent). The relatively high percent of Mental Health majors holding doctoral degrees may be accounted for by a variety of factors among which are: (*a*) That mental health training programs in schools of public health are designed primarily as postgraduate sequences for persons who already have completed their basic professional training in a mental health discipline, for example, a physician must have completed a 3-year psychiatric residency, and (*b*) that NIMH regulations on stipends awarded for general public health-mental health training grants to the schools of public health require that candidates for support hold an advanced degree in a mental health discipline. Furthermore, the size of the stipends is predicated on the number of years of graduate training that the student has had.

The modal *number of years of public health work experience prior to enrollment* reported by Mental Health majors was none (51.7 percent); this percentage was exceeded only by Biostatistics majors (55.6 percent), and Nutrition/Biochemistry majors (69.6 percent) The modal number of years of public health work experience prior to enrollment was also none for Maternal and Child Health (32.4 percent) and for Medical Care and Hospital Administration/Administrative Medicine (48.9 percent) majors.

TABLE 5:3.—*Summary comparison of mental health majors*

Major pro

	Mental Health	Administration or Practice of Public Health	Biostatistics	Environmental Health, Public Health Engineering, Sanitary Science	Epidemiology
A. Total number of respondents.	60	486	142	320	181
Modal present age:					
Years	36 to 40	31 to 35	26 to 30	31 to 35	31 to 35
Percent	26.7	23.7	33.1	34.7	33.1
Percent male	63.3	76.1	71.1	96.9	77.3
Modal highest advanced degree:					
Degree	M.D.	Bachelor's	Bachelor's	Bachelor's	M.D.
Percent	43.3	43.6	81.7	82.5	55.2
Percent of all doctoral degrees.	55.0	43.1	9.1	5.9	81.2
Modal number of years of public health work prior to enrollment:					
Years	None	1 to 4	None	1 to 4	1 to 4
Percent	51.7	35.6	55.6	43.4	39.2
Modal total years of professional work in public health:					
Years	1 to 4				
Percent	30.0				
Years	5 to 9	5 to 9	1 to 4	5 to 9	5 to 9
Percent	30.0	37.0	39.4	39.1	34.3
Percent with mental health work experience prior to enrollment.	80.0	37.4	16.2	7.2	26.0
Percent currently working in training area pursued.	85.0	71.0	80.3	78.1	59.7
Percent employed (full and part time)	95.0	95.9	78.8	90.6	90.6

and 9 other majors (N>*100*) *, by selected variables* [1]

gram areas				
Health Education	Maternal and Child Health	Medical Care and Hospital Administration, Administrative Medicine	Nutrition, Biochemistry	Public Health Nursing
255	139	415	115	309
26 to 30 29.8	41 to 45 20.9	31 to 35 28.9	26 to 30 34.8	36 to 40 19.1
51.8	48.2	86.3	7.8	1.6
Bachelor's 76.9	M.D. 72.7	Bachelor's 71.6	Bachelor's 84.3	Bachelor's 92.2
2.0	73.4	10.0	2.6	0.0
1 to 4 41.2	None 32.4	None 48.9	None 69.6	1 to 4 35.3
5 to 9 35.3	5 to 9 28.8	1 to 4 31.8	1 to 4 31.3	5 to 9 28.8
28.6	14.6	28.0	18.3	56.6
69.0	69.8	84.1	76.5	78.6
88.2	94.3	96.6	83.5	89.7

TABLE 5:3.—*Summary comparison of mental health majors and*

	Major pro				
	Mental Health	Administration or Practice of Public Health	Biostatistics	Environmental Health, Public Health Engineering, Sanitary Science	Epidemiology
Percent not taking mental health courses.	1.7	48.1	78.2	82.2	69.6
Percent taking one or more mental health courses.	96.7	48.5	19.7	14.1	27.0
B. Number of respondents subtotal.	57	466	112	290	164
Percent employed, working in health field.	96.5	95.9	89.3	91.7	96.3
Modal present functional professional title:					
Title	Other	Administrator	Biostatistician	Public health engineer/sanitarian	Other
Percent	40.4	35.6	78.6	55.2	47.0
Modal major role in present job:					
Role	Executive-administrative	Executive-administrative	Research,	Executive-administrative, 21.4; consultative,	Research,
Percent	42.1	51.1	40.2	20.7	32.9
Percent engaged in patient care.	54.4	15.2	7.1	3.1	22.0
Modal principal source of professional income:					
Source	Voluntary agency or institution,	County, city, local government,	State government,	State government,	Federal government (uniformed service), 21.3; State government,
Percent	24.6	20.0	25.9	27.9	20.7
Percent a governmental principal source of professional income.	43.9	62.7	61.6	74.1	64.5

9 other majors (N>*100*), *by selected variables* [1]—Continued

gram areas

Health Education	Maternal and Child Health	Medical Care and Hospital Administration, Administrative Medicine	Nutrition, Biochemistry	Public Health Nursing
56.1	40.3	54.9	72.2	30.7
40.8	59.0	41.9	23.4	67.6
225	131	401	96	277
92.4	97.7	97.3	87.5	98.2
Health educator 63.6	Public health physician 43.5	Administrator 73.3	Other 69.8	Public health nurse. 72.6
Consultative, 34.7	Executive-administrative, 32.8	Executive-administrative, 62.3	Consultative, 34.4	Instructional, 28.2
7.6	46.6	12.7	41.7	21.3
County, city, local government, 24.9	County, city, local government, 29.0	Voluntary agency or institution, 38.9	Federal Government (civilian), 21.9	State government, 30.7
65.8	67.2	37.4	57.2	68.9

TABLE 5:3.—*Summary comparison of mental health majors and*

Major pro

	Mental Health	Adminis-tration or Practice of Public Health	Biostatistics	Environ-mental Health, Public Health Engineering, Sanitary Science	Epidemiology
Modal-principal work setting: Setting Percent	Mental health setting, 36.8	Health—not hospital, 50.2	Health—not hospital, 31.2	Health—not hospital, 50.7	Health—not hospital, 33.5
Modal relatedness of present duties to mental health: Relatedness Percent	Strongly related, 75.4	Occasionally so, 39.1	Not related, 39.3	Occasionally so, 36.9	Occasionally so, 34.8
C. Number of respondents subtotal.	12	303	119	297	134
Needing mental health training prior to enrollment.	N=7	36.6 percent	14.3 percent	19.5 percent	20.9 percent
D. Number currently working in mental health but not majoring in Mental Health.		4	0	1	1

[1] Discrepancy between N's in this table and other tables is due to inclusion of nonresponses herein.

The modal number of years of public health work experience prior to enrollment was 1–4 years for majors in Administration or Practice of Public Health (35.6 percent), Environmental Health/Public Health Engineering/Sanitary Science (43.4 percent), Epidemiology (39.2 percent), Health Education (41.2 percent), and Public Health Nursing (35.3 percent).

The modal *total number of years of professional work experience in public health* among Mental Health majors was divided equally with 30.0 percent each reporting 1–4 years and 5–9 years. Majors in Administration or Practice of Public Health (37.0 percent), in Environmental Health/Public Health Engineering/Sanitary Science (39.1 percent), in Epidemiology (34.3 percent), in Health Education (35.3 percent), in Maternal and Child Health (28.8 percent), and in Public Health Nursing (28.8 percent) had a mode of 5–9 years of total professional experience in public health. Majors in which the highest modal total number of years of professional work experience in public health was 1–4 years included Biostatistics (39.4 percent), Medi-

9 other majors (N>*100*)*, by selected variables* [1]—Continued

gram areas				
Health Education	Maternal and Child Health	Medical Care and Hospital Administration, Administrative Medicine	Nutrition, Biochemistry	Public Health Nursing
Health—not hospital, 52.4	Health—not hospital, 51.9	Health—hospital, 48.9	Health—not hospital, 34.4	Health—not hospital, 48.0
Moderately related, 32.0	Moderately related, 41.2	Occasionally so, 42.9	Moderately related, 28.1	Strongly related, 49.1
181	75	296	92	132
44.8 percent	53.3 percent	24.7 percent	26.1 percent	65.9 percent
5	0	7	0	1

cal Care and Hospital Administration/Administrative Medicine (31.8 percent), and Nutrition/Biochemistry (31.3 percent).

While 80.0 percent of the Mental Health majors reported *mental health work experience prior to enrollment,* among other majors the range was from 56.6 percent for Public Health Nursing majors to 7.2 percent for Environmental Health/Public Health Engineering/Sanitary Science majors.

Seven of the 12 Mental Health majors with no mental health work experience prior to attending a school of public health affirmed at the time of the study to have *felt a need for mental health training prior to enrollment.* However, four of the Mental Health majors with no mental health work experience prior to attending a school of public health indicated that they had not felt such a need. As many as 65.9 percent of the Public Health Nursing majors and over one-half of the Maternal and Child Health majors (53.3 percent) with no mental health work experience prior to enrollment also expressed a need for mental health training before studying in a school of public health.

While 51 or 85.0 percent of the Mental Health majors were currently *working in the major area of their training*, the range of similar responses among majors in the other nine areas was 84.1 percent for Medical Care and Hospital Administration/Administrative Medicine majors to 59.7 percent for Epidemiology majors.

Of the 745 respondents in the total study population who were *not* working in their major program area at the time of the study, 22 (3.0 percent) reported working in mental health although they had not majored in this area. Seven of these had majored in Medical Care and Hospital Administration/Administrative Medicine, five had majored in Health Education, four had majored in Administration or Practice of Public Health, and each of the remaining six had majored in some other area. Six respondents who were mental health professionals prior to enrollment in a school of public health majored in an area other than Mental Health but at the time of the study were doing mental health work; five of these respondents were psychiatrists and one was a social worker.

Thus, only 16 respondents, who were not mental health professionals prior to enrollment and who majored in an area other than Mental Health, were engaged in mental health work at the time of this study. The small number of persons subsequently working in mental health although not Mental Health majors suggests that there may be factors within the training in schools of public health, as well as in both the professional practices of public health and mental health work which tend to discourage public health workers from crossing over into doing mental health work.

The highest percents of *employed* majors were 96.6 percent of the Medical Care and Hospital Administration/Administrative Medicine majors and 95.9 percent of the Administration and Practice of Public Health majors, while 95.0 percent of the Mental Health majors also were employed. The lowest percent of employed respondents was among the Biostatistics majors (78.8 percent).

Of the 57 employed Mental Health majors, 96.5 percent or 55 were *working in the health field*, this percent was exceeded by the Public Health Nursing majors (98.2 percent), the Maternal and Child Health majors (97.7 percent), and the Medical Care and Hospital Administration/Administrative Medicine majors (97.3 percent). The lowest percent of employed respondents working in the health field was among the Nutrition/Biochemistry majors (87.5 percent).

Among Mental Health majors the modal *present functional professional title* for 40.4 percent was "other," while among Biostatistics majors the modal functional title was biostatistician (78.6 percent). The lowest modal percent by functional title was 35.6 percent for Administration and Practice of Public Health majors who noted the title administrator.

The modal *major role in present job* among Mental Health majors was executive-administrative noted by 42.1 percent; this same role also was indicated by 62.3 percent of the Medical Care and Hospital Administration/Administrative Medicine majors and 51.1 percent of the Administration and

Practice of Public Health majors. The modal major role among Biostatistics majors (40.2 percent) and Epidemiology majors (32.9 percent) was research. Among Health Education majors (34.7 percent) and Nutrition/Biochemistry majors (34.4 percent) the modal major role was consultative. The modal major role among Public Health Nursing majors (28.2 percent) was instructional. Among Environmental Health/Public Health Engineering/Sanitary Science majors 21.4 percent were in executive-administrative roles and 20.7 percent in consultative roles.

Of the 57 employed Mental Health majors, 31 or 54.4 percent reported that they were directly *engaged in patient care*. Among other majors, the percents of respondents engaged in patient care ranged from 46.6 percent for Maternal and Child Health majors and 41.7 percent for Nutrition/Biochemistry majors to 3.1 percent for Environmental Health/Public Health Engineering/Sanitary Science majors.

The modal *principal source of professional income* among Mental Health majors was voluntary agency or institution for 24.6 percent; the same source was noted by the modal percent of majors in Medical Care and Hospital Administration/Administrative Medicine (38.9 percent). State government was the modal source of professional income for 30.7 percent of Public Health Nursing majors, 27.9 percent of Environmental Health/Public Health Engineering/Sanitary Science majors, and 25.9 percent of Biostatistics majors. County, city, other local government was noted as the modal source by 29.0 percent of Maternal and Child Health majors, 24.9 percent of Health Education majors, and 20.0 percent of Administration or Practice of Public Health majors. The Federal Government (uniformed service) was the modal source of professional income for Epidemiology majors (21.3 percent) and the Federal Government (civilian) for Nutrition/Biochemistry majors (21.9 percent).

Whereas 43.9 percent of the Mental Health majors noted a *governmental body as their principal source of professional income,* the lowest percent of respondents noting such a source was 37.4 percent among Medical Care and Hospital Administration/Administrative Medicine majors. The highest percent noting government as a principal source of professional income was 74.1 percent among Environmental Health/Public Health Engineering/Sanitary Science majors.

Among Mental Health majors, the modal *principal work setting* was a mental health setting, hospital, or outside of a hospital, noted by 36.8 percent. The modal principal work setting named by eight other majors was a health agency, other than a hospital; such replies ranged from 52.4 percent among Health Education majors and 51.9 percent among Maternal and Child Health majors to 31.2 percent among Biostatistics majors. Among majors in Medical Care and Hospital Administration/Administrative Medicine the modal principal work setting was a health agency, hospital (48.9 percent).

On the *relationship of present professional duties to mental health concerns* the modal reply among Mental Health majors was *strongly related*

(75.4 percent); this was also the modal reply among Public Health Nursing majors (49.1 percent). The modal response of *moderately related* was noted by Maternal and Child Health majors (41.2 percent), Health Education majors (32.0 percent), and Nutrition/Biochemistry majors (28.1 percent). Among majors in the following four areas the modal response was *occasionally related:* Medical Care and Hospital Administration/Administrative Medicine (42.9 percent), Administration or Practice of Public Health (39.1 percent), Environmental Health/Public Health Engineering/Sanitary Science (36.9 percent), and Epidemiology (34.3 percent). The modal response among Biostatistics majors was that their jobs were *not related* to mental health concerns (39.3 percent).

Whereas only one of 60 (1.7 percent) Mental Health majors reported not having taken *catalog listed mental health courses,* relatively large minorities of the Public Health Nursing majors (30.7 percent), Maternal and Child Health majors (40.3 percent), and Administration or Practice of Public Health majors (48.1 percent) indicated they had not taken any mental health courses. In addition, a majority of the respondents in six other major program areas reported not having taken any mental health courses; this ranged from 82.2 percent of the Environmental Health/Public Health Engineering/Sanitary Science majors to 54.9 percent of the Medical Care and Hospital Administration/Administrative Medicine majors.

In the group of Mental Health majors, 96.7 percent reported taking *one or more mental health courses.* While a majority of majors in Public Health Nursing (67.6 percent) and Maternal and Child Health (59.0 percent) took one or more mental health courses, a minority of respondents in seven other major areas had taken one or more mental health courses. This group ranged from 48.5 percent among Administration and Practice of Public Health majors to 14.1 percent among Environmental Health/Public Health Engineering/Sanitary Science majors.

Primary Professional Discipline and Choice of Major Program Area

Respondents from 22 of the 24 specific primary professional disciplines listed in the questionnaire majored in Medical Care and Hospital Administration/Administrative Medicine; from 21 different primary professions majored in Administration or Practice of Public Health, and from 18 different professions majored in Health Education. By contrast, respondents from only two primary professional disciplines majored in Rehabilitation/Physical Therapy, two majored in Social Work in Public Health, and one majored in Veterinary Public Health.

Physicians (excluding psychiatrists) had pursued 19 of 24 different specified major program areas. They were followed by educators/teachers who had majored in 14 different specified program areas. More restricted in the number of programs in which they majored were anthropologists, sociologists, engineers, psychiatrists, and dentists who majored in five areas each; "other" behavioral scientists, health educators, dietitians/nutritionists, and physiologists majored in four; and industrial hygienists majored in two (see app. D, table 4, pp. 276–277).

A majority of respondents from 10 of the primary professional disciplines majored in a single area, usually in the same field or a field closely related to their primary profession:

(1) Administrators, hospital administrators tended to major in Medical Care and Hospital Administration/Administrative Medicine (108 of 182).

(2) Dietitians, nutritionists tended to major in Nutrition/Biochemistry (84 of 91).

(3) Engineers tended to major in Environmental Health/Public Health Engineering/Sanitary Science (82 of 107).

(4) Health educators tended to major in Health Education (64 of 85).

(5) Industrial hygienists tended to major in Occupational Health/Industrial Hygiene (16 of 19).

(6) Mathematicians, statisticians, programers tended to major in Biostatistics (62 of 77).

(7) Nurses tended to major in Public Health Nursing (294 of 467).

(8) Physicists, radiological health specialists, health physicists tended to major in Radiation Health (29 of 42).

(9) Psychiatrists tended to major in Mental Health (21 of 35).

(10) Sanitarians tended to major in Environmental Health/Public Health Engineering/Sanitary Science (140 of 217).

In 10 other specified primary professional disciplines, a majority of respondents selected two or more major program areas also related either to their primary professional discipline or to administration:

(1) Physicians (excluding psychiatrists) tended to major in either Administration or Practice of Public Health, Maternal and Child Health, or Epidemiology (345 of 604).

(2) Bacteriologists, laboratory scientists, parasitologists tended to major in either Microbiology/Laboratory Public Health, or Tropical Medicine/Entomology/Parasitology (66 of 113).

(3) Biologists, entomologists, zoologists tended to major in either Environmental Health/Public Health Engineering/Sanitary Science, Tropical Medicine/Entomology/Parasitology, or Occupational Health/Industrial Hygiene (28 of 50).

(4) Chemists, biochemists tended to major in either Environmental Health/Public Health Engineering/Sanitary Science, or Nutrition/Biochemistry (28 of 50).

(5) Dentists tended to major in either Public Health Dentistry, or Administration or Practice of Public Health (83 of 106).

(6) Educators, teachers tended to major in either Health Education, or Medical Care and Hospital Administration/Administrative Medicine (66 of 115).

(7) Physical therapists tended to major in either Administration or Practice of Public Health, or Medical Care and Hospital Administration/Administrative Medicine (31 of 45).

(8) Behavioral scientists collectively tended to major in either Mental Health, Medical Care and Hospital Administration/Administrative Medicine, or Administration or Practice of Public Health (25 of 44).

(9) Social workers tended to major in either Medical Care and Hospital Administration/Administrative Medicine, or Social Work in Public Health (44 of 70).

(10) Veterinarians tended to major in either Epidemiology, or Veterinary Public Health (50 of 82).

A majority of those respondents who indicated an "other" nonspecified primary professional discipline as well as those who considered that a primary professional discipline was not applicable to them tended to major either in Medical Care and Hospital Administration/Administrative Medicine, Administration or Practice of Public Health, or Health Education.

Conversely, there is congruence between the major program area chosen and the primary professional background. A majority of respondents in the following major program areas came from *one* primary professional group:

(1) Aviation Medicine majors tended to be physicians (92 of 96).

(2) Dental Public Health majors tended to be dentists (45 of 51).

(3) Epidemiology majors tended to be physicians (101 of 181).

(4) International Health majors tended to be physicians (10 of 14).

(5) Maternal and Child Health majors tended to be physicians (102 of 139).

(6) Microbiology, Laboratory Public Health majors tended to be bacteriologists/laboratory scientists/parasitologists (48 of 64).

(7) Nutrition, Biochemistry majors tended to be dietitians/nutritionists (84 of 115).

(8) Physiological Hygiene, Environmental Medicine majors tended to be physicians (three of five).

(9) Population Studies, Family Planning, Demography majors tended to be physicians (five of eight).

(10) Public Health Nursing majors tended to be nurses (294 of 309).

(11) Social Work in Public Health majors tended to be social workers (21 of 22).

(12) Veterinary Public Health majors tended to be veterinarians (16 of 16).

Similarly, a majority of respondents in the following major program areas tended to come from *two or more* related primary professional groups:

(1) Administration or Practice of Public Health majors tended to be either physicians, administrators/hospital administrators, or nurses (253 of 486).

(2) Behavioral Sciences majors tended to be either psychiatrists or psychologists (six of nine).

(3) Biostatistics majors tended to be either mathematicians/statisticians/programers or respondents in the "nonapplicable" category (107 of 142).

(4) Chronic Disease, Gerontology majors tended to be either physicians or nurses (10 of 17).

(5) Environmental Health, Public Health Engineering, Sanitary Science majors tended to be either sanitarians or engineers (222 of 320).

(6) Health Education majors tended to be either health educators, in the "nonapplicable" category, or educators/teachers (173 of 255).

(7) Medical Care and Hospital Administration, Administrative Medicine majors tended to be either in the "nonapplicable" category or administrators/hospital administrators (247 of 415).

(8) Mental Health majors tended to be either psychiatrists, psychologists, or nurses (43 of 60).

(9) Occupational Health, Industrial Hygiene majors tended to be either physicians or industrial hygienists (55 of 93).

(10) Radiation Health majors tended to be either physicists/radiological health specialists/health physicists or in the "nonapplicable" category (39 of 74).

(11) Tropical Medicine, Entomology, Parasitology majors tended to be either physicians or bacteriologists/laboratory scientists/parasitologists (40 of 66).

IN SUMMARY, the largest groups of respondents majored in areas of Administration, Environmental Health, Public Health Nursing, and Health Education. Only a very small group of all respondents, 60 or 1.9 percent, majored in Mental Health. Proportionally, these Mental Health majors came largely from psychiatry and psychology. Those who majored in Mental Health attended nine of the 11 schools, although a majority of Mental Health majors attended Columbia, Harvard, and Hopkins.

Respondents choosing certain major areas appeared to concentrate in certain schools suggesting either the emphasis and quality of the school in that particular program area, its attractiveness for certain majors, or their criteria of admission. By primary profession, it appeared that physicians (other than psychiatrists) and educators/teachers had the broadest options in choosing major program areas, while respondents drawn from other primary professions either by choice of their own or as a result of other circumstances had majored in a lesser number of areas.

PUBLIC HEALTH WORKERS IN THE LABOR FORCE

CHAPTER 6

PUBLIC health workers are drawn largely from a broad range of primary health and related professions and occupational groups such as medicine, nursing, administration, education, laboratory sciences, and engineering. Their previous training and educational backgrounds are diverse, ranging from baccalaureate to postdoctoral levels. The extent and kind of professional work experiences prior to attending a school of public health also vary considerably. Furthermore, the particular school of public health attended imparted unique experiences, styles, and interests to their graduates. Subsequent career patterns and experiences continue to sharpen differences among graduates while also reinforcing common views about the field and its activities.

This chapter examines some of the main features of the occupational patterns of public health workers—their geographic location, employment status, professional experience in public health, professional titles and roles, sources of income, and places of work. Of special concern was to identify the extent to which public health workers who did not major in Mental Health were working in the mental health field at the time of the survey.

GEOGRAPHIC DISTRIBUTION OF PUBLIC HEALTH WORKERS

An overwhelming majority (83.3 percent) of the American public health workers who participated in this study lived or worked in large metropolitan areas of the continental United States. Seven in 10 (71.0 percent) were living or working in a metropolitan area of at least 250,000 population, one in eight (12.3 percent) in a metropolitan area of less than 250,000, and just over one out of six (16.8 percent) was located in a nonmetropolitan area.

A majority (71.5 percent) concentrated in four regions: The Pacific (20.6 percent), the south Atlantic (20.3 percent), the middle Atlantic (16.5 percent), and the east-north-central (14.1 percent). Only small numbers of public health workers have been attracted to the east-south-central, west-south-central, west-north-central, and mountain regions. In metropolitan areas with less than 250,000 population, the highest percents of public health workers were located respectively in the east-north-central (32.8 percent) and in the south Atlantic (30.9 percent) regions; the percent of public health workers from those two regions living in metropolitan areas of 250,000 population or more were, respectively, 10.7 and 19.0 percent.

The highest concentration of public health workers in the metropolitan areas of 250,000 and over appeared in the Pacific (25.8 percent), the middle Atlantic (20.4 percent), and in the south Atlantic (19.0 percent) regions (see table 6:1).

TABLE 6:1.—*Regional distribution of 1961–67 graduates from 11 schools of public health by metropolitan and nonmetropolitan areas, 1968*

Regions	Metropolitan 250,000 and over		Metropolitan under 250,000		Nonmetropolitan		Regional distribution	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
New England	143	6.7	15	4.0	55	10.8	213	7.0
Middle Atlantic	439	20.4	5	1.3	55	10.8	499	16.5
East-north-central	230	10.7	122	32.8	76	15.0	428	14.1
West-north-central	128	6.0	13	3.5	55	10.8	196	6.5
South Atlantic	409	19.0	115	30.9	91	17.9	615	20.3
East-south-central	47	2.2	20	5.4	62	12.2	129	4.3
West-south-central	127	5.9	29	7.8	13	2.6	169	5.6
Mountain	73	3.4	27	7.3	56	11.0	156	5.1
Pacific	554	25.8	26	7.0	45	8.9	625	20.6
Total	2,150	71.0	372	12.3	508	16.8	[1] 3,030	100.0

[1] An additional 85 or 2.4 percent were in U.S. possessions, in the Armed Forces, and in foreign countries.

EMPLOYMENT STATUS

A substantial majority of the respondents, 2,848 or 91.4 percent, were employed on either a full-time or on a part-time basis. As many as 224 or 7.2 percent, however, were unemployed at the time of the survey. Most of those who were working, 2,748 or 88.2 percent of all respondents, were employed full-time; and a small group, 100 or 3.2 percent, was employed only on a part-time basis. By and large, respondents were employed in the health field (86.1 percent) with fewer, but a substantial number (73.5 percent), also working in the area of their major program in a school of public health at the time of the survey. Of all employed respondents, 70 or 2.5 percent were working in the mental health field.

Employment was highest in the Tulane group (96.9 percent) and lowest in the UCLA group (87.1 percent). Unemployment was highest in the UCLA (10.9 percent), North Carolina (9.3 percent), and Pittsburgh (8.9 percent) groups, and lowest in the Tulane group (2.1 percent). Part-time employment was highest in the Berkeley group (5.5 percent) and lowest in the Hopkins (1.7 percent) and the Minnesota (1.6 percent) groups.

Employment in the Health Field

Among the employed respondents, 2,682 or 94.2 percent were working in the health field. An additional 152 or 5.3 percent respondents were working in some other field than health. Employment in the health field was highest in the Minnesota group (98.3 percent), and lowest in the UCLA group (89.7 percent). Of the 152 employed respondents not currently working in the health field, 104 or 68.4 percent gave their occupation as "other," 12 or 7.9 percent as students, three or 2.0 percent as housewives, and two or 1.3 percent as retired. Within the UCLA, Columbia, Hopkins, and Pittsburgh groups were found neither students, housewives, nor retired respondents. Among those employed but not working in health, 31 or 20.4 percent were nonresponses.

Unemployment

As already stated, 224 or 7.2 percent of all the respondents were unemployed at the time the survey was conducted in the summer of 1968, a rather high rate for a health field occupation. Among women the unemployment rate (11.6 percent) was over twice that of men (5.2 percent). One-third of the unemployed, 75 or 33.5 percent, were looking for work in the health field, while 134 or 59.8 percent were not. Among the unemployed, 18 or 8.0 percent indicated that they were looking for work other than in the health field, but it is not known how many of these nor how many of those working only part time were underemployed and were also looking for work in health. From available data it is not possible to determine either how many of the unemployed were not looking for work at all, nor how many, in effect, were looking for just any kind of work.

In summary, although 91.4 percent of all respondents were employed at the time of the survey, 3.2 percent were only working on a part-time basis and a relatively sizable group (7.2 percent) was completely out of work. Most respondents indicated that they worked in the health field (86.1 percent), the rest being either unemployed, retired, students, housewives, or working in other areas and thus, outside the field either permanently or temporarily (see table 6:2).

PROFESSIONAL PUBLIC HEALTH WORK EXPERIENCE

Among the graduates from schools of public health who participated in this study, 373 or 12.0 percent had not had any professional work experience in public health. Another 115 or 3.7 percent had less than 1 year of public health work experience. At the other end of the time-experience continuum, 317 or 10.2 percent had accumulated at least 15 years of pro-

TABLE 6:2.—*Employment status of 1961–67 graduates from 11 schools of public health, 1968*

Status	Number equals 3,115	Percent equals 100.0[1]
Employed	2,848	91.4
Full time	2,748	88.2
Part time	100	3.2
In health field	2,682	86.1
Not in health field	152	4.9
Unemployed	224	7.2

[1] Discrepancies in totals are due to rounding error, nonresponses, and respondent error.

fessional work experience, and another 442 or 14.2 percent had from 10 to 14 years such experience. A total of 838 or 26.9 percent of all the respondents had from 1 to 4 years of professional public health experience, and 943 or 30.3 percent had between 5 and 9 years of such experience. Cumulatively, 2,655 or 85.3 percent of all the respondents had at least some professional public health work experience.

By school, 21.4 percent of the UCLA respondents had not had professional public health experience at all at the time of the survey; in contrast, among Michigan respondents 7.6 percent and among Yale respondents 8.2 percent had no experience.

The highest percents of respondents from seven schools had 5–9 years of experience: Berkeley (32.7 percent), Columbia (31.1 percent), Hopkins (36.1 percent), Michigan (34.2 percent), Minnesota (29.5 percent), North Carolina (32.3 percent), and Tulane (31.9 percent). Among respondents from UCLA (34.8 percent), Harvard (31.9 percent), Pittsburgh (33.3 percent), and Yale (40.2 percent) the highest percents were those who had from 1 to 4 years of experience. The highest percent of respondents from any of the schools with 10 and over years of professional experience in public health was in the Tulane group (35.1 percent), while in the Harvard group was the lowest percent (13.2 percent) to indicate that level of experience. Cumulatively, the most experienced group, those who had worked in public health from less than 1 year to 15 and over years, was among Michigan respondents (91.0 percent) and the least experienced group was among UCLA respondents (74.7 percent).

The characteristics of the respondents' career experiences and their impact on professional styles and commitments were beyond the scope of this inquiry, but are recognized as sufficiently relevant for future research on the sociology of public health as a profession and its contribution to the health field. Some insights for future inquiry along these lines may be obtained from currently available data.

The matter of total years of professional experience in the public health field is influenced by a variety of factors; e.g., opportunities available and incentives for further study such as fellowships and scholarships, leave with pay for attending school, admission policies of the school attended, respondent's age at time of entering and at time of graduating, year of graduation, and particularly for men the extent of military service and duties. Also, as indicated earlier, professional experience in public health work per se is not necessarily a requirement for admission made by a school of public health since training in the field or in a related field may be considered as equivalent to experience for admission to certain programs. In fact, 1,058 or 34.0 percent of all the respondents indicated not having had public health work experience prior to entering a school of public health. Among UCLA respondents was the highest percent of respondents, 52.7 percent, without such prior experience while the lowest was 21.2 percent in the Michigan group.

(a.) Age—In the youngest group, 25 years and under, was the highest percent of respondents (28.1 percent) in any age group without any public health experience. Also in this youngest age group was the highest percent of respondents (22.9 percent) with less than 1 year of experience, and the second highest percent (47.9 percent) with 1–4 years of such experience. Among the 26- to 30-year-old group was the second highest percent (18.7 percent) of respondents without any professional experience, a small percent (6.5 percent) with less than 1 year of experience and, the highest percent in any age group—almost one-half (49.3 percent)—who had 1–4 years of public health experience. An additional 24.0 percent in the 26–30 age group had between 5 and 9 years of experience.

Although generally the total years of experience in public health was related to the age of the respondents, still in the 31- to 35-year-age group 9.4 percent, in the 36- to 40-year-age group 11.2 percent, in the 41- to 45-year-age group 10.6 percent, and in the 51- to 55-year-age group 9.4 percent, respectively, had not had any public health work experience.

Among those between 31 and 35 years old (43.7 percent), in the 36–40 age group (33.9 percent), and in the 41–45 age group (27.5 percent), the highest percents of respondents had, respectively, between 5 and 9 years of total public health experience. In the 46- to 50-year-old group (28.8 percent), in the 51- to 55-year-old group (41.5 percent), and in the 56-and-over-year-old group (43.2 percent) were the highest percents of respondents, respectively, with at least 15 years experience.

(b.) Sex—The differences in years of experience in public health work between men and women were sharply drawn at the extremes of the time-continuum but tended to lessen, to level off, and to reverse between 1 and 14 years of experience. Thus, among men 13.5 percent had no public health experience at all compared to 8.8 percent among the women. Among men 2.9 percent, compared to 5.4 percent among women, had less than 1 year of professional experience. The percent of men with 1–4 years experience was 27.5 percent compared to 25.7 percent among women. A higher percent among the men (32.5 percent) than among the women (25.6 percent) had from 5 to 9 years of experience. Among men, however, the percent (13.8 percent) with 10–14 years of experience was somewhat lower (15.0 percent) than among women, but among men also (7.6 percent) the percent with 15 and over years of experience was much smaller than among women (15.5 percent). Cumulatively, however, women were proportionately more experienced than the men since as stated before women tended to be older than men. It may also be inferred that men were more likely to go to a school of public health at a younger age and at earlier points in their career development than women.

CURRENT WORK AREA AND MAJOR PROGRAM PURSUED IN A SCHOOL OF PUBLIC HEALTH

To what extent were public health workers who graduated from a school of public health currently working in the same program area in which they had majored in their graduate studies? Drawing a direct connection between major program area in the school of public health and current area of work is not possible since it is not known how many graduates previously had worked in other areas than that of the major area which they identified at the time of the survey. Unfortunately, the career history of respondents since graduation cannot be ascertained from available data; yet, it is plausible to surmise that there is an association between the primary emphasis of the training program pursued and the content area and interest of professional work as indicated by present work.

Nearly three out of four respondents, 2,291 or 73.5 percent, were working in the same area as that in which they had majored in a school of public health. A total of 745 or 23.9 percent of all respondents were not working in the area of their major program. The question of whether respondents work in their major training area is germane to whether public health workers have capabilities and opportunities as generalists to perform and engage in work in a variety of areas, or whether there is in fact a tendency for job and task specialization from training throughout their career life space. Admittedly, situational factors, such as career ladders, experience requirements, promotional considerations, demand, opportunity, and rewards for specialization in the field bear on this issue and deserve study in their own right.

A main interest of this study was to determine to what extent those who majored in areas other than Mental Health moved into mental health work and conversely, how many of those who majored in Mental Health have been attracted to jobs in other areas as indicated by their current work. Before attempting to answer these questions some observations on the limitations of the data are necessary.

Of those who indicated working in some area other than their major in a school of public health, 190 or 25.5 percent did not respond to the question regarding their current field of activity and another 220 or 29.5 percent responded "other" to this question. Thus, although the data provides an indication on the extent to which public health workers were working in the area of their major training program or in some other specific area, the information examined here is based on less than one-half (45.0 percent) of the expected replies, and caution must be exercised in interpreting and generalizing from these findings.

As indicated in chapter 5, a relatively high percent of respondents (28.9 percent) majored either in Administration or Practice of Public Health, or in Medical Care and Hospital Administration, Administrative Medicine. Of those not working in the area in which they majored, 111 or 14.9 percent were working either in Administration or Practice of Public Health, or in Medical Care and Hospital Administration, Administrative Medicine. Within the group of respondents working in areas other than their major, the smallest gains were made in the Behavioral Sciences (0.4 percent), Biostatistics (0.5 percent), Physiological Hygiene/Environmental Medicine (0.1 percent), Radiation Health (0.5 percent), and Social Work in Public Health (0.5 percent).

Only 60 or 1.9 percent of the total study group of 3,115 respondents majored in Mental Health, the main interest of this study; nine such respondents were employed but not working in mental health at the time of the survey and three were unemployed. Of the Mental Health majors working in mental health, 43 were employed full-time and five were employed on a part-time basis only. Social workers tended to major in areas other than Mental Health and to work in health as distinguished from mental health settings. Similarly, anthropologists, sociologists, and "other" behavioral scientists graduating from schools of public health also tended to work outside of distinct mental health settings.

Some 22 or 3.0 percent of those not working in the area in which they majored in a school of public health were working in mental health. At least one, but no more than three respondents from each school was in this group.

Thus, 48 Mental Health majors were working in the mental health field, as well as an additional 22 respondents who had majored in some other area, bringing to 70 or 2.5 percent of the employed population of graduates who were working in the mental health field. Those working in the mental health field comprised 2.2 percent of all the respondents. There was, therefore, a very minor gain in mental health workers from among graduates of schools of public health in a 7-year period coinciding with an unprecedented scale of expansion of financing, development of services, of training and research, and in opportunities for employment in the mental health field throughout the Nation.

Present evidence indicates that graduates from schools of public health tended to work in the same area as that of their major program in a school of public health. This finding implies a tendency toward continued specialization through work as well as very limited substantive area-mobility within the field of public health itself. It also clearly suggests that the increased demands, opportunities, and needs in the mental health field appear to have had only a minor impact on the occupations and careers of public health workers.

PUBLIC HEALTH WORKERS AT WORK

Functional Professional Titles

The title of administrator was held by 609 or 21.4 percent of all the employed respondents. As many as 265 or 9.3 percent had the title of public health nurse, and 219 or 7.7 percent noted their title as public health physician. The title of health educator was indicated by 206 or 7.2 percent, and that of public health engineer or sanitarian by another 205 or 7.2 percent. Reporting themselves as laboratory scientists were 141 or 5.0 percent, and as biostatisticians 100 or 3.5 percent. The largest category of respondents, 789 or 27.7 percent, noted their title to be "other" and generally identified as their specific title either their primary professional discipline, primary specialty, role, or university faculty rank; e.g., physician, epidemiologist, planner, teacher, or professor. Another 314 or 11.0 percent did not respond.

The highest percents of respondents from Columbia, Minnesota, and Yale reported the title of administrator, while the highest percents of respondents from each of the eight other schools noted "other" as their professional title.

The highest percent of biostatisticians from any school (7.6 percent) was in the Columbia group and the lowest (0.3 percent) was in the Minnesota group. In the North Carolina group 12.7 percent were health educators; in the Hopkins group 1.8 percent. The highest percent of administrators from any school (42.9 percent) was in the Yale group and the lowest percents were, respectively, in the North Carolina (10.5 percent) and Michigan (11.0 percent) groups. The highest percents of public health sanitarians or engineers were among North Carolina (12.2 percent) and Michigan (11.8 percent) respondents, while there were none with this title in the Yale group. In the Minnesota group (19.7 percent) was the highest percent of respondents with public health nurse titles, while among Yale graduates none held this job title.

In the Hopkins group was the highest percent (24.0 percent) with the title of public health physician, and the lowest percent with this title was among Minnesota graduates (1.7 percent). The highest percent of laboratory scientists was in the Harvard group (8.8 percent) and the lowest among the Minnesota (2.4 percent) graduates. The lowest percent of those noting "other" (15.5 percent) was in the Minnesota group, and the highest (41.2 percent) in the Harvard group.

Professional Roles

Of those employed, 898 or 31.5 percent reported that they had executive-administrative roles. The second largest group of respondents, 463 or 16.3 percent, described their work role as consultative, and third were, respectively, those in instructional roles, 293 or 10.3 percent, and in research roles, 284 or 10.0 percent. Staff roles were identified by 256 or 9.0

percent, and supervisory roles by 222 or 7.8 percent. "Other" roles were ascribed by 141 or 5.0 percent, and another 291 or 10.2 percent either did not answer or indicated more than one major role or combination of roles such as executive-administrator-supervisor, or coordinator-supervisor. Illustrative of the "other" replies were roles relating directly to clinical and diagnostic work, planning, and coordination.

The highest percents of respondents from each of the schools were in executive-administrative roles. In the Columbia group was the highest percent of respondents in executive-administrative roles (48.7 percent), and in the Tulane group (19.8 percent) was the lowest percent from any school in these roles. In the North Carolina group was the highest percent of those in consultative roles (22.1 percent), while in the Harvard group 8.8 percent had such roles. Instructional roles were highest within the Tulane group (18.7 percent) and lowest among the Yale group (4.5 percent). The highest percent from any school in a research role was 20.1 percent among Harvard respondents and the lowest 4.1 percent in the Minnesota group. The highest percents noting staff roles were within the UCLA (12.0 percent), Harvard (11.8 percent), and Hopkins (11.7 percent) groups, and the lowest percent was in the Tulane group (5.5 percent). In the Tulane group also was the highest percent of respondents in supervisory roles (14.3 percent), while the lowest percent in this category was in the UCLA group (3.4 percent). The highest percent to note "other" roles was in the UCLA group (10.3 percent), and the lowest percent was in the Minnesota group (2.4 percent).

Other characteristics of the occupational roles of employed respondents were examined in further detail by selected variables:

(a.) Age—In every age group, except the 25 year old and under, the highest percents of respondents were in executive-administrative roles. In the 25-year-old-and-under age group were the highest percents of any age group in both research (27.5 percent) and in instructional (15.9 percent) roles. The lowest percents in research jobs were, respectively, in the age 51–55 (4.3 percent) and in the 56-year-old-and-over age groups (4.4 percent), while the lowest percent of employed respondents in instructional roles (8.3 percent) was in the age group 36–40. The highest percent in executive-administrative roles (38.6 percent) was among those 46–50 years old, and the lowest percent (20.3 percent) in the 25-year-old-and-under group. The highest percent of respondents in consultative roles was among those age 56 and over (24.6 percent), and the lowest percent among those 25 years old and under (11.6 percent). Among the 26- to 30-year-old group was the highest percent (13.4 percent) in staff roles, while the lowest percents in such roles were, respectively, among the 41- to 45-year-old group (6.0 percent) and among those 56 years old and over (5.8 percent). The highest percent in supervisory roles (9.6 percent) was in the 41- to 45-year-old group, and the lowest percent in these roles were (4.3 percent) among those who were 25 years old and under.

(b.) Sex—Also, higher percents of men than women were in executive-administrative (36.1 to 21.4 percent), in research (10.9 to 7.9 percent), and in staff roles (9.8 to 7.2 percent). The ratios of women to men were higher in consultative (20.0 to 14.5 percent), instructional (20.1 to 6.1 percent), and in supervisory roles (11.2 to 6.4 percent).

(c.) Functional Professional Title—Among health educators were the highest percents of respondents in consultative (35.4 percent) and in instructional roles (25.2 percent). Among laboratory scientists was the highest percent of those in research roles (60.3 percent), and among administrators was the highest percent (78.2 percent) of those in executive-administrative roles. Among public health engineers or sanitarians (12.7 percent) and in the "other" category (12.8 percent) were the highest percents of those in staff roles, and the highest percent of those in supervisory roles (24.5 percent) was among public health nurses.

(d.) Principal Source of Professional Income—Within county, city, other local government, the highest percent of respondents had executive-administrative roles (46.8 percent) followed by those in supervisory roles (19.0 percent), and the lowest percent was in research roles (1.4 percent). Of those respondents whose principal source of professional income was the Federal Government (civilian), the highest percents were in research (23.3 percent) and consultative (22.7 percent) roles, while the lowest percents were in supervisory (6.6 percent) and "other" nonspecified roles (5.7 percent). A different distribution of the roles of respondents from that of the Federal Government civilian employees obtains in the Federal Government uniformed service where over one-third (35.0 percent) were in executive-administrative roles followed by those in staff roles (18.3 percent), with the instructional role (3.5 percent) being the least frequently reported. Within private profitmaking organizations, the highest percent worked in consultative roles (28.4 percent) followed by those in staff roles (17.0 percent), while the lowest percent was in supervisory roles (5.7 percent). Nearly one-half of the self-employed respondents were in "other" nonspecified roles (48.0 percent), and one-fifth in consultative roles (20.0 percent); none of the self-employed reported being in instructional, research, or supervisory roles. Among respondents in State government the two highest percents were, respectively, in consultative (28.0 percent) and in executive-administrative (26.0 percent) roles, and the lowest percent was in "other" nonspecified roles (3.9 percent). Of those respondents in voluntary agencies or institutions, the highest percent was in executive-administrative roles (58.8 percent) followed by those in instructional roles (9.8 percent), while the lowest percent was in "other" nonspecified roles (3.2 percent). Within the category "other" nonspecified principal source of professional income, the highest percents were, respectively, in executive-administrative (28.4 percent) and instructional (23.7 percent) roles, and the lowest percent was in supervisory roles (3.6 percent).

Stated differently, the highest percents of respondents in consultative roles were, respectively, within private profitmaking organizations (28.4

percent) and within State government (28.0 percent) while the lowest percent of respondents in these roles was reported by those noting "other" sources (5.2 percent). The highest percent of respondents in executive-administrative roles (58.8 percent) was in voluntary agencies or institutions, and the lowest percent in such roles was among the self-employed (8.0 percent). The highest percent of respondents in research roles (23.3 percent) was in the Federal Government (civilian) and the highest percent of respondents in staff roles (18.3 percent) was in the Federal Government (uniformed service). Among the self-employed none were in instructional, research, or supervisory roles and 2.0 percent were in staff roles. The highest percent of respondents in supervisory roles was within county, city, other local government (19.0 percent), and among those reporting "other" nonspecified sources of professional income was the highest percent of respondents in instructional roles (23.7 percent). The highest percent of respondents noting "other" principal source of income was (48.0 percent) among the self-employed.

(e.) Principal Work Setting—Within college or university settings, the highest percent of respondents had instructional roles (51.7 percent) followed by those in research roles (17.6 percent); the lowest percent was in supervisory roles (1.8 percent). Of those respondents working in a hospital, the highest percents were in executive-administrative (63.3 percent) and staff (8.5 percent) roles, and the lowest percent was in instructional roles (3.2 percent). Among respondents working in a health agency, other than hospital, the two highest percents were, respectively, in executive-administrative (37.5 percent) and consultative (25.2 percent) roles, and the lowest percents were in "other" nonspecified roles (3.0 percent) and in instructional roles (2.7 percent). Within the category industry or business, the highest percents were each in consultative (32.6 percent) and staff (20.2 percent) roles; none of the respondents in these settings were in instructional roles. Among respondents in medical or other health professional schools, the highest percents were, respectively, in instructional (30.2 percent) and research (19.7 percent) roles; none were in supervisory roles. Nearly one-half of the respondents working in mental health settings, both in and outside of a hospital, were in executive-administrative roles (48.4 percent) while the next highest percent was in consultative roles (13.3 percent); none were in instructional roles. Within school of public health settings, over one-half of the respondents were in research roles (52.0 percent) and over one-fourth in instructional roles (28.0 percent); none were in consultative roles. Within the category "other" nonspecified principal work setting, the highest percents of respondents were each in executive-administrative roles (27.8 percent) and in consultative roles (18.7 percent), while the lowest percent was in instructional roles (3.0 percent).

Patient Care Functions

A relatively small number of employed respondents (559 or 19.6 percent) were engaged in direct patient care, while a large majority

(2,010 or 70.6 percent) had jobs not requiring such functions. Less than one-half of the physicians (44.5 percent), one-fifth of the nurses (20.9 percent), and just over one-fourth of the dentists (27.7 percent) were engaged in direct patient care. Of the 35 psychiatrists, 20 also indicated that they were engaged in direct patient care. By school, the highest percent of respondents with jobs involving direct patient care was 39.7 percent in the Harvard group, and the lowest was 9.8 percent in the Yale group.

Principal Sources of Professional Income

All levels of government combined were the principal source of income for 1,723 or 60.4 percent of all employed respondents; the private sector for 567 or 20.0 percent, and "other" sources for 194 or 6.8 percent. A large number of respondents noting "other" specified a college or university as their principal source of professional income. The principal source of professional income was not reported by 364 or 12.8 percent of the employed respondents (see table 6:3).

By school, the highest percent of respondents identifying government as their principal source of income was 69.1 percent in the North Carolina group, and the lowest percent was 42.8 percent in the Yale group. The highest percent of respondents from any school working in the private sector was 36.9 percent within the Columbia group, and the lowest percent was 13.2 percent in the Tulane group.

Overall, the Federal Government (uniformed and civilian services combined, 716 or 25.1 percent), was the principal source of income for more of the employed respondents than either State (571 or 20.0 percent) or county, city, other local (436 or 15.3 percent) governments. The Federal Government was the principal source of income for 46.6 percent in the Harvard group but only for 11.5 percent of the Columbia group. Within the Harvard group 31.9 percent while in the Columbia group 4.3 percent were, respectively, in the Federal Government uniformed service.

The highest percent of civilians in the Federal Government was 15.8 percent in the Hopkins group, and the lowest 7.2 percent in the Columbia group. The Federal Government (civilian and uniformed services combined) was also the principal source of income for higher percents of respondents from Berkeley (24.8 percent), UCLA (21.7 percent), Harvard (46.6 percent), Hopkins (41.5 percent), Michigan (23.5 percent), Pittsburgh (27.1 percent), Tulane (24.2 percent), and Yale (22.3 percent) than either State government or county, city, other local government taken singly.

The highest percent of respondents from any school employed by State government was 31.4 percent in the North Carolina group and the lowest percents were, respectively, 10.7 percent in the Pittsburgh and 10.9 percent in the UCLA groups. The highest percents of employed respondents whose principal source of income was county, city, other local

TABLE 6:3.—*Graduates from 11 schools of public health, 1961–67, by principal sources of professional income*

Source of income	Berkeley	UCLA	Columbia	Harvard	Hopkins	Michigan	Minnesota	North Carolina	Pittsburgh	Tulane	Yale	Total
Number	480	175	236	204	171	519	290	411	159	91	112	2,848
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Government	(65.2)	(52.0)	(46.2)	(66.7)	(66.7)	(65.5)	(55.2)	(69.1)	(49.1)	(55.0)	(42.8)	(60.4)
Federal	24.8	21.7	11.5	46.6	41.5	23.5	18.6	24.3	27.1	24.2	22.3	25.1
Civilian	9.2	13.7	7.2	14.7	15.8	11.9	7.6	12.9	10.1	12.1	9.8	11.1
Uniformed service	15.6	8.0	4.3	31.9	25.7	11.6	11.0	11.4	17.0	12.1	12.5	14.0
State	20.2	10.9	14.4	15.2	13.5	22.5	24.5	31.4	10.7	19.8	13.4	20.0
County, city, other local	20.2	19.4	20.3	4.9	11.7	19.5	12.1	13.4	11.3	11.0	7.1	15.3
Private	(14.8)	(26.9)	(36.9)	(16.2)	(14.0)	(13.5)	(27.2)	(13.9)	(29.6)	(13.2)	(35.8)	(20.0)
Voluntary agency or institution	10.6	10.3	27.5	7.4	9.9	7.9	22.0	7.5	18.9	12.1	29.5	13.2
Profitmaking organization	3.1	9.7	7.2	4.4	2.3	4.6	5.2	5.4	8.2	1.1	3.6	5.0
Self-employed	1.1	6.9	2.2	4.4	1.8	1.0	0	1.0	2.5	0	2.7	1.8
Other	(7.3)	(8.0)	(4.2)	(11.3)	(5.3)	(6.4)	(5.5)	(3.6)	(11.9)	(11.0)	(8.9)	(6.8)
Nonresponses	(12.7)	(13.1)	(12.7)	(5.8)	(14.0)	(14.6)	(12.1)	(13.4)	(9.4)	(20.8)	(12.5)	(12.8)

government were, respectively, 20.2 percent in the Berkeley and 20.3 percent in the Columbia groups, and the lowest was 4.9 percent in the Harvard group.

Among graduates from every school, government collectively was the principal source of income for the largest number of employed respondents. Although the private sector (20.0 percent) was a poor second to government (60.4 percent) as a principal source of income, there were instances in which voluntary agencies or institutions alone were the principal source of income for a higher percent of respondents from specific schools than either State, county, city, other local, or Federal Government civilian and uniformed services taken individually. Within the private sector itself, voluntary agencies or institutions were noted by higher percents of respondents from each school as a principal source of income than were self-employment or profitmaking organizations.

Voluntary agencies or institutions were the principal source of income for 13.2 percent of all employed respondents. Within the Yale group was the highest percent from any school (29.5 percent) to note voluntary agencies or institutions as their principal source of income; this was a higher percent than for Yale respondents whose principal source of income was county, city, other local government (7.1 percent), the Federal Government civilian service (9.8 percent), the Federal Government uniformed service (12.5 percent), and State government (13.4 percent) as well. Within the Columbia group similarly, the highest percent of respondents (27.5 percent) indicated voluntary agencies or institutions as their principal source of income while State government was noted by 14.4 percent, the Federal uniformed service by 4.3 percent, the Federal Government civilian service by 7.2 percent, and county, city, and other local government by 20.3 percent. Within the Berkeley group, the percent of those whose principal source of income was a voluntary agency or institution (10.6 percent) slightly exceeded those noting the Federal Government civilian service (9.2 percent); within the UCLA group a higher percent had as principal source of income the voluntary sector (10.3 percent) than the Federal Government uniformed service (8.0 percent). Within the Harvard group voluntary agencies or institutions (7.4 percent) as principal source of income surpassed those from county, city, other local government (4.9 percent).

Voluntary agencies or institutions (22.0 percent) ranked second to State agencies (24.5 percent) as source of income among Minnesota graduates, and exceeded the percent for county, city, other local government (12.1 percent), Federal Government civilian service (7.6 percent), and the Federal Government uniformed service (11.0 percent). Among Pittsburgh graduates, the voluntary agencies or institutions were the principal source of income for 18.9 percent, which was higher than for those in State government (10.7 percent), or the Federal Government civilian service (10.1 percent), the Federal Government uniformed service (17.0 percent), and county, city, other local government (11.3 percent).

In the Hopkins group, each branch of the Federal Government—civilian (15.8 percent), uniformed (25.7 percent)—State (13.5 percent), and county, city, other local government (11.7 percent) contained a higher percent of respondents each than the voluntary agencies or institutions (9.9 percent). Similarly, Michigan and North Carolina respondents tended to note a component of government as their principal source of income. In the Michigan group, 11.9 percent were in the Federal Government civilian service, 11.6 percent in the Federal Government uniformed service, 22.5 percent in State, 19.5 percent in county, city, other local government, while 7.9 percent noted voluntary agencies or institutions. In the North Carolina group, 12.9 percent were in the Federal Government civilian service, 11.4 percent in the Federal Government uniformed service, 31.4 percent in the State, 13.4 percent with county, city, other local government, and 7.5 percent with voluntary agencies or institutions. Among Tulane respondents, 19.8 percent indicated State government as principal source of income, 12.1 percent the Federal Government uniformed service, 12.1 percent the Federal Government civilian service, 11.0 percent county, city, other local government, and 12.1 percent voluntary agencies or institutions.

To only a few, 50 or 1.8 percent, self-employment was the principal source of income; in fact, the highest percent from any school so indicating was 6.9 percent in the UCLA group, whereas among Minnesota and Tulane graduates none reported self-employment as a principal source of income.

A relatively small number also, 141 or 5.0 percent, indicated as principal source of professional income a private profitmaking organization. In the UCLA group 9.7 percent derived their income principally from a private profitmaking organization, while among Tulane respondents only 1.1 percent indicated such a principal source of income.

Overall, respondents from each school except from Columbia and Yale indicated as their principal source of income one of the levels of government; among Columbia and Yale graduates a voluntary organization was noted by a higher percent of respondents than any single level of government as their principal source of income.

Work Settings

The principal place of work for a majority of employed respondents, 1,483 or 52.1 percent, was a health setting. This was followed by 475 or 16.6 percent whose principal place of work was an academic setting, and third were 454 or 15.9 percent who worked in other settings such as school systems, welfare or social agencies, industry or business, private practice, and other unspecified establishments. Only 60 of the employed respondents or 2.2 percent worked in a mental health setting, whether a hospital or other kind of mental health agency (see table 6:4).

The highest percent of respondents from any school working in academic settings was 27.5 percent from the Tulane group, and the lowest

TABLE 6:4.—*Graduates from 11 schools of public health, 1961–67, by principal work setting*

Principal work setting	Berke-ley	UCLA	Colum-bia	Har-vard	Hop-kins	Michi-gan	Minne-sota	North Caro-lina	Pitts burgh	Tulane	Yale	Total
Number	480	175	236	204	171	519	290	411	159	91	112	2,848
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Academic	(11.0)	(16.0)	(14.9)	(20.1)	(18.1)	(17.7)	(21.1)	(16.3)	(18.3)	(27.5)	(11.6)	(16.6)
College or university	7.4	12.0	6.4	7.4	8.8	13.7	18.3	12.7	14.5	20.9	8.0	11.5
Medical or other health professional school	2.3	3.4	6.8	9.3	6.4	2.7	1.4	1.7	2.5	2.2	1.8	3.3
School of public health	1.3	0.6	1.7	3.4	2.9	1.3	1.4	1.9	1.3	4.4	1.8	1.8
Health	(58.1)	(41.8)	(57.2)	(42.6)	(46.2)	(59.5)	(56.9)	(55.0)	(50.9)	(42.9)	(50.9)	(52.1)
Hospital	15.6	18.9	28.8	13.7	10.5	5.0	25.2	6.3	19.5	6.6	25.0	14.5
Health, not hospital	42.5	22.9	28.4	28.9	35.7	45.5	31.7	48.7	31.4	36.3	25.9	37.6
Mental health	(1.2)	(2.8)	(4.2)	(3.0)	(3.6)	(0.6)	(2.4)	(2.4)	(0.6)	(0)	(5.4)	(2.2)
Hospital	0.8	1.1	2.1	0.5	1.8	0.2	2.1	0.5	0.6	0	4.5	1.1
Not hospital	0.4	1.7	2.1	2.5	1.8	0.4	0.3	1.9	0	0	0.9	1.1
All other	(15.9)	(25.1)	(10.6)	(27.9)	(17.5)	(16.9)	(7.2)	(13.4)	(20.1)	(7.7)	(17.0)	(15.9)
School system	1.5	2.3	0.4	0	1.2	1.7	1.7	1.0	1.3	0	0.9	1.2
Welfare or social agency	1.7	1.1	1.7	2.5	0	1.6	0.7	0.7	0.6	1.1	2.7	1.3
Industry or business	1.7	7.4	4.7	4.9	1.8	4.8	1.4	3.6	6.9	1.1	2.7	3.6
Private practice	1.2	5.7	2.1	3.9	1.8	1.3	0.3	0.7	2.5	0	0.9	1.7
Other	9.8	8.6	1.7	16.6	12.7	7.5	3.1	7.4	8.8	5.5	9.8	8.1
Nonresponses	(13.8)	(14.3)	(13.1)	(6.4)	(14.6)	(14.3)	(12.4)	(12.9)	(10.1)	(21.9)	(15.1)	(13.2)

percent in those settings was 11.0 percent in the Berkeley group. Of those working in health settings, the highest percents were each in the Berkeley group (58.1 percent) and in the Columbia group (57.2 percent), and the lowest percent was in the UCLA group (41.8 percent). More than one-fourth of both the Harvard (27.9 percent) and UCLA (25.1 percent) groups worked in other than academic, health, or mental health settings, however, the lowest percent from any school working in such other settings was in the Minnesota group (7.2 percent).

Respondents working in a mental health setting were divided equally between those who worked in a mental health setting in a hospital (1.1 percent) and those who worked in a mental health setting outside a hospital (1.1 percent). By school, in the Yale group 5.4 percent was the highest percent of respondents working in a mental health setting, while among Tulane graduates none were working in a mental health setting.

The largest number of respondents working principally in academic settings was 329 or 11.5 percent who noted a college or university. Only 96 or 3.3 percent of all employed respondents worked principally in a medical or other health professional school, and still less, 50 or 1.8 percent, indicated that their place of work was a school of public health. Within the Harvard group a higher percent (9.3 percent) than from any other school indicated working principally in a medical or other health professional school than in a college or university (7.4 percent). Among Columbia respondents, almost as many were working in a college or university (6.4 percent) as those working in a medical or other health professional school (6.8 percent). Respondents from the other nine schools who worked in academic settings indicated more frequently working in a college or university than in a medical or other health professional school, or in a school of public health. Among Tulane graduates a higher percent of those in academic settings indicated a college or university (20.9 percent), but a school of public health (4.4 percent) was noted more frequently than a medical or other health professional school (2.2 percent). The lowest percent from any school to note a school of public health as principal work setting was from UCLA (0.6 percent).

There is no question that the principal place of work for graduates from a school of public health was a health setting although it was not likely for them to work in a mental health setting. Also, it was unlikely for these graduates to work principally in a private practice setting, in a school system, in a welfare or social agency, or in industry or business. Within health settings, better than 2½ times more respondents worked outside a hospital than in a hospital setting. Among Columbia respondents the percent of those working in health settings in hospitals (28.8 percent) was almost equal to those working in nonhospital settings (28.4 percent). In the Columbia group was the highest percent of respondents from any school working in a hospital. Among Yale graduates 25.0 percent worked in a hospital setting and 25.9 percent worked in a health setting other than hospital. Among graduates from the other nine schools, health settings other than hospitals were the principal place of work. In the North Carolina group 48.7 percent worked principally in health settings outside hospitals and 6.3 percent worked in hospitals.

In summary, graduates from schools of public health tended to live or work in the larger metropolitan areas of the country concentrating particularly in the Pacific, the south Atlantic, the middle Atlantic, and the east-north-central regions. Fewer graduates have been attracted to the east-south-central, west-south-central, west-north-central, and mountain regions. At the time of the survey, although a very substantial majority of the respondents were employed full time, a relatively high percent was unemployed (7.2 percent), and about half as many (3.2 percent) worked part time only. In effect, one in seven respondents was not working at all in the health field.

Although one in eight respondents had not had professional work experience in the public health field at the time of the survey, generally public health graduates except among those in the youngest age group tended to have between 1 and 9 years of total public health experience. The highest percents of respondents from each of seven schools had from 5 to 9 years of experience: Berkeley, Columbia, Hopkins, Michigan, Minnesota, North Carolina, and Tulane. Among graduates from four schools, the modal years of experience in the field was from 1 to 4 years: UCLA, Harvard, Pittsburgh, and Yale. Cumulatively, the most experienced group of graduates was from Michigan, and the least experienced from UCLA. Age clearly bears upon the years of experience in the field particularly among both the youngest and the oldest respondents although not consistently among respondents in their middle years. In the age groups 31–35, 36–40, and 41–45, however, the highest percents of respondents had from 5 to 9 years experience. Among respondents age 25 and under was the highest percent of any age group without experience, and among the oldest, age 56 and over, was the highest percent of those with the most years of experience. Length of professional experience in the field also varied by sex since as it has been noted before, the men tended to comprise a younger population. Indeed, men were more likely than women not to have had any experience in public health work; while among women the percent of those with 15 or more years of public health experience was higher than among men. Yet, differences started to level off from the first year to 10–14 years of experience to the point that the percent of men was higher than among women who had from 5 to 9 years experience. Thus, it appears also that there may be a tendency among men to attend a school of public health at an earlier stage in their career than women.

Judging by the present jobs of respondents it may be surmised that a large majority of graduates from a school of public health work in the same area as that in which they majored at school suggesting a tendency toward both continued stability and career specialization. Only very minor gains of mental health workers were made from the respondents both from among those who majored in Mental Health as well as in any other area. The number of employed graduates from the 7-year period covered who had jobs in the mental health field at the time of the survey totaled 70 or 2.2 percent of the total study population. Of the 66 who had majored in Mental Health, 12 were not working in this area.

The most frequently reported present functional professional title among employed respondents was the title "other" which was generally specified as the primary profession of training, primary specialty, role, or university rank. The title administrator was reported by over one-fifth of the respondents or better than twice that of public health nurse, or public health physician, or health educator, or public health engineer/sanitarian.

The major job role most frequently reported was executive-administrative; this was followed by consultative. The highest percent of respondents from each of the schools held executive-administrative roles. In the Berkeley, UCLA, Columbia, Michigan, North Carolina, and Yale groups, the highest percents of respondents were, respectively, in executive-administrative and consultative roles; in the Harvard, Hopkins, and Pittsburgh groups in executive-administrative and research roles; and in the Minnesota and Tulane groups in executive-administrative and instructional roles.

Analyses of work roles by age group suggests that research and teaching appeared to attract younger graduates, executive-administrative and supervisory jobs appeared to attract more mature respondents, while consultant roles appeared to be more prevalent among the oldest workers. Men reported certain roles more frequently than women; namely, executive-administrative, research, and staff; while women reported more often such roles as consultative, instructional, and supervisory.

Roles also appear to be associated both with the principal source of professional income and with the principal work setting in which it was performed. In city, county, other local government, in the Federal Government uniformed service, in voluntary agencies and institutions, and in "other" nonspecified principal sources of professional income, the highest percents of respondents were each in executive-administrative roles. In State government and in private profitmaking organizations the highest percents of respondents were in consultative roles. In the Federal Government civilian service the highest percent of respondents was in research roles. Among the self-employed the highest percent of respondents was in "other" nonspecified roles.

By principal work settings, within hospitals, health agencies other than hospitals, and in mental health settings including hospitals, and "other" settings, the highest percents of respondents were, respectively, in executive-administrative roles. Within colleges and universities and within medical and other health professional schools, not including schools of public health, the highest percents of respondents were in instructional roles; in schools of public health, the highest percent was in research roles.

Of those in business and industry, the highest percent was in consultative roles.

A relatively small group of respondents was engaged in direct patient care activities, including less than one-half of the physicians, one-fifth of the nurses, and one-fourth of the dentists.

Government was the principal source of income for three in five of the employed respondents and the private sector for one in five. The Federal Government including both the civilian and uniformed service was the principal source of income for a larger group of employed respondents than either State or county, city, other local governments. Of those in the private sector, the largest group noted a voluntary agency or institution as their principal source of income; very few noted a private profitmaking organization, and even less noted self-employment.

For a majority of employed respondents the principal place of work was a health setting. Very few, however, worked in a mental health setting either in a hospital or outside a hospital. Of those working in academic settings, the largest group worked in colleges or universities, and substantially fewer worked in a medical or other health professional school, while the smallest group worked in a school of public health.

ASSESSMENT OF MENTAL HEALTH TRAINING

PART III

CHAPTER 7

PUBLIC HEALTH WORKERS APPRAISE THEIR SCHOOL OF PUBLIC HEALTH TRAINING AND PRACTICE IN MENTAL HEALTH

VIEWS ON MENTAL HEALTH TRAINING IN PUBLIC HEALTH

NO clear consensus prevails among professionals in the public health field regarding the extent to which mental health and public health concerns may be brought together within a common sphere of professional work activities, whether in content, administration, organization, or procedure. This state of affairs poses particularly difficult problems in training public health workers within a framework which attempts to integrate or interrelate public health and mental health concepts and methods. Since it has been so difficult in administrative and professional practices to institute integrated or coordinated programs of public health and mental health, how can training be organized and conducted in such a direction? If so, what opportunities will be available to graduates from schools of public health in applying such training in their public health careers or in exercising leadership to implement such directions? And, what is the impact of schools of public health on public health-mental health practice?

Although the formulation of a body of theory of practice as is required for such purposes is not within the scope of the present work, it was a major concern of the research inquiry itself to contribute toward establishing systematically an empirical base for some of the views and opinions held by professionally trained public health workers regarding their own training, experience, and perceptions of mental health in public health. This body of information was deemed to be a necessary background to such theoretical formulations.

This chapter examines the extent of exposure that respondents had to mental health courses and concerns, the perceptions noted by respondents of the mental health training they received in a school of public health, and the scope of their interactions with mental health professionals on the faculty. A portion of the chapter is concerned with responses to sets of questions raised to tap the opinions of graduates as they appraise their past training. When the survey was conducted a timespan ranging between 1 and 7 years had elapsed since their graduation from a school of public health.

Admittedly, many other factors than those directly and inherently related to the training experience itself may have conditioned their views. Such factors might include career experiences, work roles, self-views as public health workers, as well as those particular personal experiences and perspectives which might have been developed before, during, or after their training period. Therefore, these questions were intended to identify the saliency of impacts of public health-mental health concerns among respondents, and their interrelationships and relevance, rather than to their recall of any actual training experiences.

Mental Health Courses Taken at a School of Public Health

This section is addressed to whether respondents had taken courses listed as mental health in the catalog of the school attended. This approach was one of several used to establish the kinds of exposures to mental health training that public health workers may have undergone while attending a school of public health. How many mental health courses were taken, if any? Were the courses taken required, elective, or both required and elective?

First, a much larger group of respondents, 1,814 or 58.2 percent, indicated *not* having taken a mental health course than those who took such courses while attending a school of public health. Less than two in five, 1,218 or 39.2 percent, reported taking one or more such courses. Second, better than one-half (675 or 55.4 percent) of those who had taken any mental health courses took only one catalog listed mental health course. In other words, slightly over one in five (21.7 percent) of all respondents had taken only one mental health course as part of their training for a master's degree in a school of public health. An additional 310 or 10.0 percent of all respondents took two mental courses, and 233 or 7.5 percent took three or more such courses.

Respondents from Columbia, North Carolina, Tulane, and Yale more frequently than those from the other schools indicated having taken one or more mental health courses. Three-fourths (75.0 percent) of Columbia respondents had taken one or more mental health courses in contrast to less than one-sixth (14.9 percent) among those who had attended Pittsburgh. Between one-half and four-fifths of the respondents from Pittsburgh (80.6 percent), Berkeley (77.2 percent), UCLA (68.7 percent), Michigan (66.7 percent), Minnesota (63.8 percent), Harvard (62.4 percent), and Hopkins (50.6 percent) did *not* take any mental health courses. By contrast, 20.2 percent among the Columbia and 24.6 percent among the Yale graduates reported not having taken any mental health labeled course. In detail, by school, the percents of respondents taking one course ranged between 41.0 percent from Yale to 8.3 percent from Pittsburgh. Of those who reported two courses, the range by school was 27.2 percent from Columbia to 2.7 percent from Berkeley. Among those who reported three or more courses, the highest percent was 26.8 percent from Columbia and the lowest 1.6 percent from Berkeley.

A somewhat higher percent of respondents (59.5 percent) graduating in 1964–67 indicated not having taken any mental health courses than the percentage indicating not taking any such courses among the 1961–63 graduates (55.5 percent).

Among respondents who had taken one or more mental health courses, a large minority (45.6 percent) took only required courses; a smaller group (29.2 percent) took only elective mental health courses, and 19.8 percent took both required and elective mental health courses. However, from the data available it is not possible to determine precisely the actual referent to required or elective courses since a given course may be required for all students enrolled in a school, and/or for students enrolled in specific major program areas or degree programs in the same school. Also, a student's previous training and experience may also influence whether certain courses are designated as elective or required. Furthermore, a school may offer options in the choice of particular courses within a given area although it may establish prerequisities for certain electives. Thus, although the responses to this question would not express students' preference or lack of preference for mental health course work, they indicate one dimension of their exposure to mental health training within professional education in public health.

By school, among those who took mental health courses, required courses were more frequently noted among respondents from Columbia, Minnesota, North Carolina, and Yale; electives were more frequently indicated by Berkeley, UCLA, Hopkins, Michigan, Pittsburgh, and Tulane respondents; and in the Harvard group, the highest percent noted both required and elective courses.

The highest percent of those graduates who took required mental health courses was in the North Carolina group (71.4 percent), in contrast to the lowest percent within the Tulane group (6.6 percent). Of those who reported having taken only elective mental health courses, the highest percent (70.5 percent) was in the Berkeley group and the lowest (2.3 percent) within the Yale group. In the Harvard group 34.1 percent indicated having taken both required and elective mental health courses, while in the Berkeley group 10.5 percent took such courses.

(a.) Age—Among the youngest group, 25 years old and under, was the highest percent of respondents in any age group (80.2 percent) who did not take any mental health courses. The highest percent taking any such courses was among the 51-to 55-year-old respondents (56.1 percent). Also, the lowest percents of respondents who took either one, two, or three or more mental health courses were in the 25-year-old-and-under group (17.7 percent). Among the 51-to 55-year-old group was the highest percent to have taken two (15.2 percent) and also three or more mental health courses (15.2 percent). In the age group 56 years old and over was the highest percent (28.4 percent) to have taken one mental health course. Within any of the age groups, a higher percent of respondents took one mental health course than the percents taking either two or three or more mental health courses.

(b.) Sex—There were substantial differences between men and women with respect to having taken mental health course work. Women respondents were more likely than men to have taken any such course work. In fact, better than one-half of the women (51.3 percent) took one or more mental health courses compared to one-third among the men (33.3 percent).

(c.) Years of professional experience prior to enrollment—Among the respondents who had worked in the public health field for at least 15 years before they enrolled for a master's degree was the highest percent (50.4 percent) who had taken one or more mental health courses. Among those who had had from 10 to 14 years of such experience was the second highest percent of respondents (48.4 percent) to have taken one or more mental health courses. In the groups which had, respectively, from 1 to 4 and 5 to 9 years of professional public health experience prior to attending a school of public health, similar percents of respondents (40.4 percent and 39.2 percent) had taken one or more mental health courses. Among both those who had not had any such experience (35.6 percent), and among those who had had less than 1 year of public health experience (33.9 percent) before entering a school of public health were the lowest percents of respondents that had taken one or more mental health courses.

Except among respondents with 15 or more years of public health experience prior to enrollment, the ratios of respondents who took any mental health courses were lower than for those who did not take any such courses. Thus, in general, respondents who had had the greatest extent of professional public health experience prior to admission to a school of public health were also more likely than both those with lesser experience and those with no experience at all to have taken any mental health courses during their public health training (see app. E, table 1, p. 278).

(d.) Mental health work experience prior to enrollment—Proportionately, respondents with experience in mental health work prior to entering a school of public health were more likely to have taken one or more mental health courses while attending a school of public health than those who had not had such mental health experience. Of the 2,139 respondents who had not had mental health work experience 720 or 33.7 percent took one or more mental health courses. Of the 963 respondents who had mental health work experience, 494 or 51.3 percent took one or more mental health courses at a school of public health. Of those who had mental health work experience prior to attending a school of public health 45.7 percent did not take any catalog listed mental health course, while among those who lacked such experience 63.9 percent did not take any such courses either.

(e.) Felt need for mental health training—Among the 2,139 respondents who had no mental health work experience before enrollment 1,469 or 68.7 percent reported not having felt a need for mental health training at that time, while 651 or 30.4 percent considered that they needed such training. Among those without mental health experience who felt a need for such training 47.5 percent took one or more mental health courses compared to 27.7 percent among those who had not felt such a need.

(f.) Primary professional discipline—Among nurses (66.8 percent) was the highest percent of respondents to have taken one or more mental health courses. Among administrators/hospital administrators 54.9 percent took one or more mental health courses. Among health educators 47.1 percent, among social workers 44.2 percent, among educators/teachers 40.9 percent, and among dentists 39.6 percent took one or more mental health courses. Mental health course work was least frequently taken among such professional groups as engineers (4.6 percent) and chemists/biochemists (8.0 percent).

(g.) Major program area—Almost all Mental Health majors took one or more mental health courses (96.6 percent); but except for majors in Public Health Nursing (67.6 percent) and Maternal and Child Health (59.0 percent), less than one-half of respondents in all other major program areas took any mental health course as shown below:

Selected major programs taken in schools of public health:	*Respondents taking 1 or more mental health courses*	
	Number	*Percent*
Mental Health	58 of 60	96.6
Public Health Nursing	209 of 309	67.6
Maternal and Child Health	82 of 139	59.0
Administration or Practice of Public Health	236 of 486	48.6
Medical Care, Hospital Administration, Administrative Medicine	174 of 415	41.9
Health Education	104 of 255	40.8
Aviation Medicine	38 of 96	39.6
Dental Public Health	20 of 51	39.2
Tropical Medicine, Entomology, Parasitology	22 of 66	33.3
Epidemiology	49 of 181	27.1
Nutrition, Biochemistry	27 of 115	23.5
Biostatistics	28 of 142	19.7
Occupational Health, Industrial Hygiene	18 of 93	19.4
Environmental Health, Public Health Engineering, Sanitary Science	45 of 320	14.1
Microbiology, Laboratory Public Health	9 of 64	14.1
Radiation Health	8 of 74	10.8

(h.) Public health degree—Among those who obtained a master's degree in hospital administration (M.H.A. or M.S.H.A., 55.5 percent) was the highest percent of respondents who took one or more mental health courses. The second highest percent was among those who received an M.P.H. degree (40.5 percent). The lowest percent of respondents to take any mental health courses was among those who received the M.S. Hygiene degree (20.4 percent). Among the M.S. Hygiene holders also was the highest percent of respondents who did not take any mental health courses (76.5 percent). The percents of respondents not taking any mental health course work were also considerably large among respondents who received M.S.P.H. degrees (63.7 percent), "other" master's degrees (61.9 percent), and M.P.H. degrees (57.3 percent). Still large, although smaller than in other degree groups, was the percent who did not take any mental health courses among holders of the M.H.A. or M.S.H.A. degree (39.3 percent) (see app. E, table 2, p. 278).

(i.) Highest advanced degree—By highest advanced degree held prior to enrollment, a minority of respondents in all categories reported that they had taken one or more mental health courses. While 42.0 percent of respondents holding an M.D. degree reported taking one or more mental health courses, a little more than one-third of those holding master's degrees (35.2 percent) and almost two of five of those with bachelor's degrees (39.5 percent) and D.D.S. degrees (39.6 percent) replied similarly.

IN SUMMARY, roughly two-fifths of all respondents took one or more mental health courses. Among those who took such courses, the largest group took only one course. Women were more inclined to have taken mental health courses than men, and the youngest group, age 25 and under, was least likely to have taken any such courses. In the age group 51–55 was the highest percent to have taken mental health courses. The group with the most experience in the public health field prior to enrollment in a school of public health was also more likely to have taken mental health course work. It was also more likely for respondents who had not had mental health work experience not to take mental health course work and to note that they had felt no need for such training. A higher percent of those who noted that they felt a need for mental health training prior to enrollment took mental health course work in comparison to those who felt no such need. Among the primary professional groups, nurses and administrators/hospital administrators ranked highest in taking mental health courses. Among those who majored in Mental Health, in Public Health Nursing, and in Maternal and Child Health were, respectively, the highest percents who took mental health course work.

Among holders of M.H.A. and M.S.H.A. degrees was the highest percent of respondents who had taken any mental health courses, while M.S. Hygiene holders were least likely to have taken any such courses.

By highest advanced degree held prior to attending a school of public health, the highest percent of respondents who had taken one or more mental health courses were M.D.'s; the second highest percent was among those who had bachelor's and D.D.S. degrees.

Actually a majority of graduates did not take any courses listed in a school catalog as mental health, and of those who took any such courses, the highest percent took only required courses.

Concerns of Mental Health Course Work

There are still unreconciled tendencies: (*a*) To equate mental health with psychiatry and psychology, and by extension with individual psychopathology; (*b*) to identify both public health and mental health issues as separate fields and domains; and (*c*) to consider mental health as a part of public health. In addition, since most mental health faculty members in schools of public health have been trained in and are drawn from clinical, case-oriented, one-to-one treatment practices, respondents who had taken mental health courses were asked their views on the extent that their mental health course work was concerned with psychiatry and psychology as well as the extent to which such course work was concerned with public health issues.

Almost one-half of the 1,218 respondents who took one or more mental health courses (592 or 48.6 percent) noted that this course work was *highly concerned* with psychiatry and psychology. One-half or more of the respondents from six schools[1] considered their mental health courses as *highly concerned* with psychiatry and psychology: Tulane (62.3 percent), Columbia (60.6 percent), Berkeley (55.2 percent), UCLA (50.9 percent), Harvard (56.1 percent), and Yale (56.8 percent).

An almost equal number of respondents (602 or 49.4 percent) indicated that their mental health course work was *highly concerned* with public health issues. One-half or more of the respondents from Hopkins (68.2 percent), Michigan (61.0 percent), Tulane (57.4 percent), Harvard (57.3 percent), Berkeley (52.4 percent), and UCLA (50.9 percent) considered that their mental health courses had been *highly concerned* with public health issues. In this connection it may be noted that one-half or more of the respondents from Berkeley, UCLA, Harvard, and Tulane also indicated that their mental health courses were *highly concerned* with psychiatry and psychology.

Among respondents from each Berkeley, Columbia, Minnesota, Tulane, and Yale higher percents considered their mental health courses as *highly concerned* with psychiatry and psychology than those who considered such courses as *highly concerned* with public health issues. On the other hand, higher percents of respondents from Hopkins and Michigan, respectively, appraised their mental health courses as *highly concerned* with public health issues than those who considered them to be *highly concerned* with psychiatry and psychology. Also, equal or almost equal percents from each UCLA, North Carolina, and Harvard considered such courses as being *highly concerned* with psychiatry and psychology as well as with public health issues. Less than one-half of the respondents from Minnesota as well as from North Carolina indicated that their mental health course work was both *highly concerned* with psychiatry and psychology, and with public health issues.

(a.) Number of mental health courses taken—As stated earlier, 1,218 or 39.2 percent of all the respondents took one or more mental health courses with better than one-half of that group (55.4 percent) having taken only one course. A positive association may be observed between the number of mental health courses taken in relation to the degree to which such course work was reportedly concerned both: (1) With psychiatry and psychology, and (2) with public health issues. The greater the number of mental health courses taken, the greater the likelihood of respondents to indicate that such course work was *highly concerned* with psychiatry and psychology as well as *highly concerned* with public health issues. While 64.8 percent of those who took three or more mental health courses reported these to be *highly concerned* with psychiatry and psychology, 51.3 percent of those who took two mental health courses and 41.8 percent of respondents taking one mental health course replied similarly. Likewise, 66.1 percent of those taking three or more mental health courses indicated that their mental health course work was *highly concerned* with public health issues, while 55.8 percent of those who took two mental health courses and 40.7 percent of those taking one mental health course responded similarly.

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[1] Respondents from Pittsburgh were excluded from this analysis since only 27 graduates had taken any catalog labeled mental health courses.

However, the fewer the number of mental health courses taken, the more likely for respondents to indicate that their mental health course work was either *moderately concerned* or *not concerned* with psychiatry and psychology and *moderately concerned* or *not concerned* with public health issues. While 45.2 percent of those who took one mental health course reported that this course work was *moderately concerned* with psychiatry and psychology, 41.9 percent of those who took two mental health courses and 30.9 percent of those taking three or more mental health courses replied in this manner. Of those reporting that their mental health course work was *not concerned* with psychiatry and psychology, 5.0 percent took one mental health course, 2.6 percent took two mental health courses, and none took three or more mental health courses. Similarly, 45.0 percent of those taking one mental health course reported their course work as *moderately concerned* with public health issues, while 35.5 percent of those taking two mental health courses and 30.0 percent of those taking three or more mental health courses stated that these were *moderately concerned.* Of those indicating that their mental health course work was *not concerned* with public health issues, 9.3 percent took one mental health course, 4.9 percent took two mental health courses, and 1.3 percent took three or more mental health courses (see app. E, tables 3 and 4, pp. 279–280).

Public Health Contexts of Mental Health Course Work

Another set of questions was addressed to the 1,218 respondents who had taken one or more mental health courses while attending a school of public health. This set was aimed at a more searching probe as to: (*a*) The extent to which respondents considered their mental health course work to have been meaningful to public health, (*b*) their views on the knowledge of the mental health faculty about the problems and approaches of public health work, and (*c*) the relevance of such course work to the present work functions of those respondents. To the largest groups of respondents, course work in mental health was *moderately meaningful* (45.9 percent) to public health concerns, and the mental health course work had been *useful* (43.7 percent) to their present functions. According to one-half of the respondents (49.9 percent) the mental health faculty was *very knowledgeable* with regard to public health.

Meaningfulness of mental health courses—Stated in detail, although 559 or 45.9 percent of the respondents considered the mental health course work presented by the mental health faculty as *moderately meaningful* to public health concerns, 473 or 38.8 percent deemed it *highly meaningful*, and another 132 or 10.8 percent considered it *not meaningful* to public health concerns. Better than one-half of the respondents from Hopkins (58.8 percent) and Michigan (53.1 percent) regarded their mental health course work as *highly meaningful* to public health concerns; but in the opinion of one-half or better of respondents from UCLA (50.9 percent), Minnesota (53.3 percent), and North Carolina (52.9 percent) their mental health course work was *moderately meaningful* to public health concerns. To almost one-fifth of Yale respondents (18.2 percent), their mental health course work was *not meaningful* in a public health context.

(a.) Mental health work experience prior to enrollment—Persons who had had mental health work experience before attending a school of public health were more likely than those without such experience to consider the mental health course work in the school as *highly meaningful* to public health concerns. Those without such experience were more likely to consider such course work as *moderately meaningful* to public health concerns. While 48.2 percent of respondents with prior mental health experience indicated that their mental health courses were *highly meaningful* to public health concerns, 32.5 percent of those without prior mental health experience replied similarly. On the other hand, 50.0 percent of respondents with no prior mental health experience judged their mental health courses as *moderately meaningful* to public health concerns; this answer was also given by 39.9 percent of those with prior mental health experience (see app. E, table 5, p. 280).

(b.) Number of mental health courses taken—The degree to which mental health courses taken were considered to be meaningful to public health concerns also appears to be related to the number of such courses taken. The greater the number of courses taken the more likely for respondents to indicate that such course work was *highly meaningful*. Of those respondents taking three or more mental health courses, 60.5 percent reported this course work as *highly meaningful* to public health concerns; 41.9 percent of those taking two mental health courses, and 29.9 percent of those taking one mental health course replied similarly. However, the fewer the number of mental health courses taken, the more likely for respondents to indicate that their mental health course work was *moderately meaningful* or *not meaningful* to public health concerns. While 49.9 percent of respondents taking one mental health course reported these as *moderately meaningful*, 45.5 percent of those taking two mental health courses, and 34.7 percent of those taking three or more mental health courses indicated similarly. Furthermore, of those reporting that their mental health course work was *not meaningful* to public health concerns, 14.4 percent took one mental health course, 9.0 percent took two mental health courses, and 3.0 percent took three or more mental health courses (see app. E, table 6, p. 281).

Public health knowledge of mental health faculty.—Regarding the competence of the mental health faculty on public health matters, 608 or 49.9 percent of respondents rated this faculty as *very knowledgeable*, 416 or 34.2 percent as *knowledgeable*, 115 or 9.4 percent as *not very knowledgeable*, and 66 or 5.4 percent did not express an opinion. Over three-fourths of the Hopkins group (76.5 percent) assessed the mental health faculty as *very knowledgeable* and so did one-half or more of the respondents from Columbia (53.9 percent), Harvard (50.0 percent), Michigan (60.5 percent), and Minnesota (50.5 percent). Among North Carolina respondents, 34.0 percent rated the mental health faculty as *very knowledgeable* and another 42.4 percent as *knowledgeable* in public health problems and approaches. The lowest percent to rate the faculty as *knowledgeable* was 16.5 percent in the Hopkins group. The highest percent of respondents holding the opinion that the mental health faculty was *not very knowledgeable* in public health matters was 19.7 percent in the Tulane group; the lowest percents holding to this view were, respectively, 4.0 percent among Michigan, 3.8 percent among Minnesota, and 3.5 percent among Hopkins respondents. The range of *no opinion* in this regard was from 9.5 percent among the Minnesota respondents to 1.6 percent among Tulane and 2.3 percent among Yale respondents.

(a.) Mental health work experience prior to enrollment—Respondents with experience in mental health work prior to studying in a school of public health were more likely than those who lacked such experience to consider that the mental health faculty at the school was *very knowledgeable* about public health problems and approaches. While 54.9 percent of respondents with prior mental health experience considered this faculty as *very knowledgeable* about public health problems and issues, 46.7 percent of the respondents with no prior mental health experience replied similarly (see app. E, table 7, p. 281).

(b.) Number of mental health courses taken—The greater the number of mental health courses taken, the more likely for respondents to indicate that the mental health faculty was *very knowledgeable* about public health problems and approaches. Among respondents taking three or more mental health courses 68.2 percent indicated that the mental health faculty was *very knowledgeable* about public health problems and approaches, while 55.5 percent of respondents taking two mental health courses and 41.0 percent of those taking one mental health course so reported. However, the fewer the number of mental health courses taken, the more likely for respondents to indicate that the mental health faculty was *knowledgeable* about public health problems and approaches. While 40.4 percent of respondents taking one mental health course reported *knowledgeable*, 27.7 percent of those taking two mental health courses, and 24.5 percent of those taking three or more mental health courses replied similarly (see app. E, table 8, p. 282).

Usefulness in Present Work.—In appraising the level of usefulness of their mental health training to present functions, 532 or 43.7 percent of those respondents who took mental health courses considered such training as *useful,* 321 or 26.4 percent as *highly useful,* 272 or 22.3 percent as *of little use,* and 58 or 4.8 percent as *of no use at all.* Only 18 or 1.5 percent held *no opinion* on this issue. Among respondents from all schools except Minnesota, mental health training was more frequently considered to be *useful* to present functions than *highly useful, of little use,* or *of no use at all.* The highest percent of respondents indicating that the mental health training received was *useful* was 48.2 percent in the Columbia group and the lowest was 38.1 percent in both the Berkeley and Minnesota groups. Minnesota respondents were almost equally split between the opinions *highly useful* (39.0 percent) and *useful* (38.1 percent) regarding their mental health training. One-fourth or more of the graduates from Berkeley (26.7 percent), UCLA (26.3 percent), Columbia (25.4 percent), North Carolina (25.6 percent), and Yale (27.3 percent) were of the opinion that their mental health training was *of little use* to their present functions. The opinion that mental health training had been *of no use at all* was highest among Harvard (12.2 percent) and Yale (11.4 percent) and lowest in the UCLA (1.8 percent), Hopkins (1.2 percent), and Michigan (0.6 percent) groups (see also chs. 8 and 9 on "Usefulness in Work").

(a.) Mental health work experience prior to enrollment—Respondents experienced in mental health work prior to attending a school of public health were more likely than those without such experience to consider their mental health course work as *highly useful* to their present work. While 39.3 percent of the respondents with prior mental health experience reported their mental health course work as *highly useful,* 17.5 percent of those with no prior mental health experience replied similarly. On the other hand, 27.6 percent of respondents with no prior mental health experience judged their mental health course work as *of little use* to their present work, and 14.6 percent of those with prior mental health experience also replied similarly (see app. E, table 9, p. 283).

(b.) Number of mental health courses taken—The greater the number of mental health courses taken, the more likely for respondents to indicate that their mental health course work was *highly useful* in their present work. Among respondents taking three or more mental health courses 54.9 percent reported that their mental health course work was *highly useful* in the performance of their present work functions, while 25.2 percent of the respondents taking two mental health courses, and 17.0 percent of the respondents taking one mental health course replied similarly. However, the fewer the number of mental health courses taken, the more likely for respondents to indicate that their mental health course work was *of little use* in their present work. While 27.4 percent of respondents taking one mental health course reported this to be *of little use,* 20.6 percent of those taking two mental health courses, and 9.9 percent of those taking three or more mental health courses replied similarly (see app. E, table 10, p. 284).

Mental Health Issues in Public Health Course Work

In the opinion of 1,162 or 37.3 percent of all the respondents, mental health issues were *occasionally related* to their total public health course work, and for 874 or 28.1 percent mental health issues were *moderately related* to those courses. A smaller group, 658 or 21.1 percent, however, considered that mental health issues were *highly related* to public health courses, and for another 185 or 5.9 percent they were *not related*. An additional 166 or 5.3 percent held *no opinion* on this question.

Among graduates from all schools except Hopkins and Yale, the view that mental health issues were *occasionally related* to public health courses was more frequently expressed than any other. Among Hopkins and Yale graduates, however, the opinion more frequently reported was that mental health aspects were *moderately related* in public health course work. The highest percents of respondents indicating that mental health issues were *highly related* to their public health course work were 25.0 percent in the Berkeley and 25.1 percent in the Minnesota groups; the lowest percent so indicating was 13.9 percent in the Pittsburgh group. Of those who noted that the relationship of mental health issues to public health courses was *moderate,* the highest percent, 36.7 percent, was in the Hopkins group and the lowest, 20.0 percent, in the Pittsburgh group. In the Pittsburgh group also was the highest percent, 46.7 percent, to indicate that there was an *occasional* relationship of mental health issues to public health courses, and the lowest percent to share this opinion was 28.7 percent in the Yale group. In the Pittsburgh group was the highest percent (11.7 percent) noting that mental health issues were *not related* to their public health courses; the lowest percents with the same view were, respectively, 3.5 percent among the UCLA, 3.8 percent in the Minnesota, and 4.3 percent in the Berkeley groups. The distribution of opinions in this area among Pittsburgh graduates is characterized by the relatively higher percent (58.4 percent) who noted that mental health issues were either *occasionally* or *not related* to the public health courses taken.

(a.) Mental health work experience prior to enrollment—Respondents with mental health work experience prior to entering a school of public health were more likely to consider that mental health issues were *highly related* to public health concerns in their overall public health course work. Among respondents with prior mental health experience 31.8 percent considered that mental health issues were *highly related* to public health concerns, while 16.3 percent of the respondents with no prior mental health experience also gave the same answer. On the other hand, respondents with no prior mental health experience were more likely to consider that mental health issues were either *occasionally related* or *not related* to public health concerns in their total public health course work (see app. E, table 11, p. 285).

(b.) Number of mental health courses taken—Likewise, the greater the number of mental health courses taken, the more likely for respondents to indicate that mental health issues were *highly related* to public health concerns in their overall public health course work. Among respondents taking three or more mental health courses 41.6 percent indicated that mental health issues were *highly related* to public health concerns in their total public health course work; 32.3 percent of the respondents taking two mental health courses, 20.7 percent of the respondents taking one mental health course, while 16.9 percent of the respondents taking no mental health courses reported similarly (see app. E, table 12, p. 286).

Interest of Public Health Faculty in Mental Health

A large minority of all respondents, 1,448 or 46.5 percent, considered other public health faculty (exclusive of the mental health faculty) as *moderately interested* in discussing mental health aspects of public health. According to 574 or 18.4 percent, the public health faculty was *very interested*, and to 456 or 14.6 percent, this faculty was *not interested* in mental health. As many as 557 or 17.9 percent expressed *no opinion* in this regard.

Among graduates from all the schools, the more frequently reported opinion was that the public health faculty was *moderately interested* in mental health aspects of public health; the highest percents to express such a judgment were, respectively, 51.8 percent in the Columbia and 52.1 percent in the Tulane groups, and the lowest was 41.7 percent in the Pittsburgh group. Among the Minnesota graduates 23.5 percent and among Yale graduates 23.8 percent indicated that the public health faculty was *very interested* in mental health, while in the Harvard group only 12.8 percent gave the same response. According to 22.1 percent in the Harvard group, the public health faculty was *not interested* in mental health, and the lowest percent holding that opinion was 7.9 percent in the Minnesota group. Respondents with *no opinion* ranged from 26.1 percent in the Pittsburgh group to 9.0 percent in the Yale group.

In summary, the largest groups of respondents (46.5 percent) were of the opinion that the public health faculty (exclusive of the mental health faculty) was *moderately interested* in discussing mental health and that mental health issues were *occasionally related* to the total public health training program (37.3 percent). Only a minority of the respondents (39.2 percent) took one or more mental health courses. Of these, the largest groups held the views that their mental health course work was *highly concerned* with psychiatry and psychology (48.6 percent), that it was *highly concerned* with public health (49.4 percent), and that it was *moderately meaningful* to public health (45.9 percent). One-half of those who took mental health courses indicated that the mental health faculty was *very knowledgeable* about public health problems (49.9 percent), and a plurality of respondents reported that the mental health training received had been *useful* to their present work (43.7 percent).

The greater the number of mental health courses taken, the greater the likelihood of respondents to indicate that such course work was *highly concerned* with psychiatry and psychology as well as *highly concerned* with public health issues. Similarly, respondents who had taken several mental health courses and those who had mental health experience prior to entering a school of public health were more likely to consider that mental health courses were *highly meaningful* to public health concerns. These respondents were also more likely to judge the mental health faculty as *very knowledgeable* about public health, to deem their mental health course work as *highly useful* to their present work functions, and to regard the discussion of mental health issues as *highly related* to their overall public health course work.

INTERACTION WITH FACULTY MEMBERS FROM THE MENTAL HEALTH PROFESSIONS

Respondents were asked to identify what contacts they had during their training with faculty members from the mental health professions—psychiatry, psychology, psychiatric nursing, psychiatric social work, and "other" mental health professions, and to specify any such other professions. They were also asked to identify the roles assumed by such faculty in these contacts, viz, teachers, advisors or supervisors, tutors, or "others." Multiple replies were allowed. The purpose of this question was to identify the dimensions of exposure to mental health associated with any sort of contacts that respondents had had with mental health professionals on the faculty, regardless of course work taken in this area.

Nearly two-thirds of all respondents (2,042 or 65.6 percent) reported a combined total of 4,763 contacts with this faculty while an additional 895 respondents or 28.7 percent did not report any contacts with them. A majority of respondents from every school reported contacts with mental health professionals on the faculty. Four-fifths or more of the respondents from Yale (93.4 percent), Columbia (82.9 percent), and Tulane (79.8 percent) had such contacts; the lowest percent of respondents with these contacts was from Berkeley (52.8 percent). Overall, the highest percent of contacts with mental health professionals on the faculty was with psychiatrists (37.5 percent) who were followed in rank order by psychologists (25.3 percent), psychiatric nurses (14.9 percent), psychiatric social workers (14.3 percent), and last were contacts with "other" mental health professionals (8.0 percent).

By faculty role, the highest percent of contacts was with teachers (76.7 percent). As shown by table 7:1, contacts with teachers ranked highest for all the mental health professions with the remaining types of contacts—

TABLE 7:1.—*Roles of faculty members, by mental health professions*

Roles	Mental health professions					
	Psychiatry	Psychology	Psychiatric nursing	Psychiatric social work	Other	Total
Teacher:						
Number	1,476	968	482	465	266	3,657
Percent	82.6	80.3	67.8	68.3	70.1	76.7
Advisor-supervisor:						
Number	139	100	109	57	56	461
Percent	7.8	8.3	15.4	8.4	14.8	9.7
Tutor:						
Number	36	21	10	15	15	97
Percent	2.0	1.7	1.4	2.2	4.0	2.0
Other:						
Number	136	117	109	144	42	548
Percent	7.6	9.7	15.4	21.1	11.1	11.6
Total:						
Number	1,787	1,206	710	681	379	4,763
Percent	100.0	100.0	100.0	100.0	100.0	100.0

advisor or supervisor (9.7 percent), tutor (2.0 percent), or "other" (11.6 percent)—being by far much lower.

Contacts With Psychiatrists

Although, overall, contacts with psychiatrists on the faculty were the most frequently indicated, there was a wide range of variation in the number and kinds of contacts with specific mental health professionals reported by graduates from the various schools of public health. Over one-half of the contacts reported by respondents from Columbia (56.0 percent) and Tulane (52.8 percent) were with psychiatrists; the lowest percents reporting these contacts were from Berkeley (22.2 percent) and from Pittsburgh (22.3 percent). Contacts with psychiatrists ranked highest among respondents from nine schools.

Of the 3,657 teacher contacts reported, 1,476 or 40.4 percent were with psychiatrists. Among Columbia graduates was the highest percent of contacts with psychiatrists in teaching roles (48.2 percent), and the lowest percents of such contacts were among Pittsburgh (17.3 percent) and Berkeley (17.4 percent) graduates. The highest percent of contacts with psychiatrists was in teaching roles (82.6 percent).

Contacts With Psychologists

Only among Berkeley (36.4 percent) and Pittsburgh respondents (25.0 percent) did contacts with psychologists rank higher than those with psychiatrists. The lowest percents of contacts with psychologists were reported by Minnesota (17.0 percent) and Tulane (15.1 percent) graduates. Of all the teacher contacts, 968 or 26.5 percent were with psychologists. The highest percents of contacts with psychologists in a teaching role originated within the Berkeley group (27.8 percent) followed by the North Carolina (25.2 percent) and Harvard (25.1 percent) graduates. Among Pittsburgh graduates the percent of contacts with psychiatrists as teachers (17.3 percent) was roughly as high as with psychologists in the same role (17.7 percent). The lowest percents of contacts with psychologists as teachers were among graduates from Minnesota (12.7 percent) and from Tulane (11.3 percent). The highest percent of contacts with psychologists was in teaching roles (80.3 percent).

Contacts With Psychiatric Nurses

Although the highest percent of contacts reported with psychiatric nurses on the faculty was in teaching roles (67.8 percent), yet contacts with psychiatric nurses as advisors or supervisors were proportionately higher (15.4 percent) than those noted for any other specific mental health profession. The highest percent of contacts with psychiatric nurses from any school (23.8 percent) was among Michigan respondents.

Overall, contacts with psychiatric nurses (14.9 percent) were proportionately lower than with psychiatrists (37.5 percent) and with psychologists (25.3 percent). Contacts with psychiatric nurses, however, were higher than those with psychiatric social workers among Michigan, Minnesota, North Carolina, and Pittsburgh graduates, while proportionately contacts with psychiatric nurses and psychiatric social workers were about the same among Yale graduates.

Contacts with psychiatric nurses ranked second to those with psychiatrists in the Michigan (23.8 percent) and in the Minnesota (22.1 percent) groups and third in the North Carolina (17.1 percent), Pittsburgh (21.9 percent) and Yale (11.1 percent) groups. Such contacts were fourth in rank among Tulane (10.1 percent), Harvard (9.5 percent), and Hopkins (13.6 percent) respondents. The lowest percents of contacts with psychiatric nurses originated with the Berkeley (8.6 percent), UCLA (8.8 percent), and Columbia (6.1 percent) respondents, respectively.

Of the 3,657 teacher contacts reported, 482 or 13.2 percent were with psychiatric nurses. The highest percents of contacts with psychiatric nurses as teachers were among Michigan (19.0 percent), Pittsburgh (15.0 percent), and Minnesota (14.9 percent) respondents. Over one-fourth (27.8 percent) of all psychiatric nurse-teacher contacts originated among Michigan respondents.

Contacts With Psychiatric Social Workers

There were as many contacts reported with psychiatric social workers (14.3 percent) as with psychiatric nurses (14.9 percent). The contacts with psychiatric social workers as teachers (68.3 percent) were proportionately as many as those with psychiatric nurses (67.8 percent) in such a role. The highest percent of contacts with psychiatric social workers was from Berkeley (22.6 percent), and the lowest percent from Columbia (9.9 percent). Of all the teacher contacts, 465 (12.7 percent) were with psychiatric social workers. The highest percents of contacts with psychiatric social workers in teaching roles were from Berkeley (14.0 percent) and from Pittsburgh (14.2 percent); the lowest percent of such contacts was among Columbia graduates (5.9 percent). Over one-fifth (21.1 percent) of all contacts with psychiatric social workers were reported as "other," and another 8.4 percent as advisor or supervisor.

The percents of contacts reported with psychiatric social workers were higher than with psychiatric nurses among respondents from six schools: Berkeley (22.6 to 8.6 percent), UCLA (17.0 to 8.8 percent), Columbia (9.9 to 6.1 percent), Harvard (16.7 to 9.5 percent), Hopkins (16.0 to 13.6 percent), and Tulane (14.5 to 10.1 percent). In no instance did respondents from any school indicate that the frequency of contacts with psychiatric social workers was higher than those reported for psychologists; yet among Berkeley respondents the frequency of contacts with psychiatric social workers (22.6 percent) was almost the same as those with psychiatrists (22.2 percent).

Contacts With Other Mental Health Professionals

Mental health faculty members from other than the specified mental health disciplines and specialties discussed above were noted as "other." These contacts were less frequently reported (8.0 percent) than with any of the specified mental health professions. The highest percent of contacts with "other" mental health professionals was in teaching roles (70.1 percent). Other contacts with these professionals included 14.8 percent as advisor or supervisor, and 11.1 percent "other." The distribution of types of contacts with these faculty members thus resembles that of psychiatric nurses more than that of psychiatrists or psychologists among whom substantially higher percents of contacts were as teachers.

In summary, a large majority of respondents had contacts with faculty members with a mental health professional identification while attending a school of public health. The number of respondents who reported contacts with mental health professionals on the faculty was greater than that of respondents who took mental health course work. The lowest percent of graduates from any one school reporting such contacts was from Berkeley among whom still better than one-half indicated exposure to mental health professionals. Based on the types of contacts reported, the most common role was that of teacher; relatively lower percents reported other role relationships, particularly low, being that of tutor. Contacts with psychiatrists were most frequently reported overall and in teaching roles as well. While contacts with psychiatrists were most frequently reported in nine schools, contacts with psychologists were more frequent among

Berkeley and Pittsburgh graduates. Combined, contacts with psychiatrists and psychologists, comprised 62.8 percent of all types of contacts reported with mental health professionals. Contacts with psychiatric social workers, psychiatric nurses, and other mental health professionals on the faculty were reported primarily as teachers although within each of these professional groups higher percentages indicated advisory or supervisory roles and "other" roles than were reported for psychiatrists and psychologists.

APPRAISALS OF MENTAL HEALTH ASPECTS COVERED IN PUBLIC HEALTH TRAINING

CHAPTER 8

IN order to identify further the extent and kinds of exposure to mental health considerations in school of public health training and their relevance to professional practice, a list of 74 subject items consisting of 31 public health content topics and 43 mental health content topics was included in the questionnaire. Respondents were asked to indicate: (1) If the mental health aspects of each public health content topic was *covered* in any class; (2) if yes, whether it was *well-presented;* and (3) if the mental health aspects of the public health content topic covered had been *useful* in their work. The same questions were asked regarding each of the mental health topics (see ch. 9). This chapter presents the findings on the mental health aspects of the public health content topics.

The public health content topics were subdivided further into two areas, a *socioenvironmental area* containing 19 topics and a *family and child health area* with 12 topics. The 43 mental health content topics were categorized into three areas: A *basic area* containing nine topics, a *general area* of 26 topics, and a *specialized area* with eight topics.

The focus of concern on the public health content topics was solely with respect to the *mental health aspects of the topic,* rather than with the topic itself. For example, the questions about coverage, presentation, and usefulness of fluoridation dealt with the mental health aspects of that topic rather than with the entire subject of fluoridation.

The following 19 topics were included in the *socioenvironmental area* of the public health content topics: (1) Accident prevention, (2) air and water pollution, (3) alcoholism control, (4) chest X-ray programs, (5) cigarette smoking, (6) delinquency control, (7) fluoridation, (8) geriatric programs, (9) housing, (10) industrial health, (11) immunization programs, (12) medical quackery, (13) migrant health, (14) narcotic control, (15) noise abatement, (16) nutrition and food fads, (17) radiation control, (18) suicide prevention, and (19) tuberculosis control. The *family and child health area* included: (1) Abortion, (2) battered child syndrome, (3) birth control and family planning, (4) classes for expectant parents, (5) out-of-wedlock children, (6) postnatal care of mothers, (7) pregnancy and childbirth crises, (8) premature births, (9) school health programs, (10) sex education, (11) venereal disease, and (12) well-child conferences.

COVERAGE OF MENTAL HEALTH ASPECTS OF PUBLIC HEALTH TOPICS

The responses are presented with reference to a set of four questions: (1) How many respondents *in the whole study population* indicated that a given topic was covered in relation to mental health issues? (2) In the view of *majorities of respondents from individual schools,* which topics were covered in relation to mental health issues? (3) Which topics were covered in relation to mental health issues according to the *highest/lowest percents of respondents and which schools they attended?* (4) Which topics were covered in the view of the *highest/lowest percents of respondents from each of the 11 schools?* Through this fourfold presentation of data it is possible to gage the extent of coverage of mental health aspects of public health topics in schools of public health as viewed by respondents.

According to *majorities of all respondents,* the mental health aspects of two of the 31 topics were covered in their public health training: 1,722 or 55.3 percent for alcoholism control, and 1,684 or 54.1 percent for geriatric programs. The smallest number of all respondents to indicate that the mental health aspects of a public health topic was covered was 790 or 25.4 percent for air and water pollution, and 791 or 25.4 percent also for classes for expectant parents.

The topic covered most frequently according to respondents from individual schools was alcoholism control. One-half or more of the respondents from each of the following eight schools reported that the mental health aspects of alcoholism control were covered: Berkeley, UCLA, Columbia, Harvard, Hopkins, Michigan, Tulane, and Yale. The second most frequently identified topic was geriatric programs which was reported by a majority of respondents from each of seven schools: UCLA, Columbia, Hopkins, Michigan, Minnesota, Tulane, and Yale.

The median percent of all respondents who indicated coverage of the mental health aspects of the 31 public health topics was 36.5 percent. The median of those who indicated coverage of the mental health aspects of the 19 *socioenvironmental area* topics was 37.8 percent; the median percent of respondents noting that the 12 *family and child health area* topics were covered in relation to mental health was somewhat lower, 34.1 percent. The range of all responses indicating that the mental health aspects of the 31 public health topics were covered was from 55.3 to 25.4 percent (see table 8:1).

A closer range perspective follows on the coverage of particular topics, their overall respective rank of coverage, and their rank of coverage according to graduates from each of the 11 schools. Through this type of analysis, groups of respondents from each school of public health have been compared to each other on the dimension of perceived coverage of mental health aspects of topics, and the coverage of topics has been compared in the context of the total study population. Caution must be ex-

TABLE 8:1.—*Coverage of mental health aspects of public health topics in school of public health training*

[Medians and range of percents of respondents]

	Number of items	Covered, percent of respondents		Not covered, percent of respondents		Do not recall, percent of respondents		Nonresponse, percent of respondents	
		Median	Range	Median	Range	Median	Range	Median	Range
Public health topics	31	36.5	55.3–25.4	34.1	49.1–20.8	20.4	23.6–14.9	8.6	21.4–5.8
Socioenvironmental area	19	37.8	55.3–25.4	32.3	49.1–20.8	19.9	23.6–14.9	8.3	10.8–5.8
Family and child health area	12	34.1	49.2–25.4	34.4	41.8–26.9	20.5	22.6–15.4	10.0	21.4–8.4

ercised in interpreting these data and in assessing their implications since the views of respondents may be tinged and influenced by a variety of factors extraneous to their public health training which were not controlled for purposes of this study. Among such factors may be included the influence, special interests in research, prominence, and publications of certain faculty members, time lapsed since graduation, varieties of work experiences, age, changing professional and personal interests, and other personal, professional, and career considerations.

Public Health Topics Most Frequently Covered in Relation to Mental Health in Schools of Public Health

Topics Noted as Covered by Majorities of Respondents.—As indicated earlier, one of the main procedures followed in summarizing the large mass of data gathered was to determine if a majority of respondents, 50.0 percent or more, from a given school indicated coverage of the mental health aspects of a specific topic. As may be observed from table 8:2, one-half or more respondents from one or more schools noted that the mental health aspects for 16 of the 31 public health topics listed were covered in their public health training. Of these, 11 were in the *socioenvironmental area* and five were in the *family and child health area.* Also, a majority of respondents from each of the schools, except from Pittsburgh, indicated at least one public health topic as covered in its relationship to mental health. By school, the number of public health topics which in the view of majorities were covered in relation to their mental health aspects were: Yale 12, UCLA nine, Tulane seven, Harvard six, Hopkins six, Minnesota five, Columbia four, Berkeley three, Michigan two, North Carolina one, and Pittsburgh none.[1]

A majority of respondents from eight of the schools noted alcoholism control, from seven of the schools geriatric programs, from six of the schools suicide prevention, and from five schools each accident prevention, cigarette smoking, and birth control and family planning. Fluoridation was noted by majorities from four schools, and also majorities from three schools noted school health programs. Housing, industrial health, narcotic control, and venereal disease were noted by majorities from two schools, and majorities from one school each noted nutrition and food fads, tuberculosis control, abortion, and battered child syndrome.

Topics Noted by the Highest Percents of Respondents and School Attended.—What are the highest percents of respondents to indicate that the mental health aspects *of each of the 31 topics* was covered? The following list contains the 31 topics and the highest percents of respondents

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[1] See app. F, table 1, pp. 287–288, for percent coverage on mental health aspects of all public health topics.

Table 8:2.—*Majorities of 1961–67 graduates from schools of public health indicating coverage of mental health aspects of public health topics*

Public health topics [1]	Berkeley	UCLA	Columbia	Harvard	Hopkins	Michigan	Minnesota	North Carolina	Pittsburgh	Tulane	Yale	Total
Number	513	201	257	226	180	565	315	462	180	94	122	3,115
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Socioenvironmental area:												
Accident prevention		56.2		60.2			53.0			50.0	53.3	
Alcoholism control	54.8	72.1	56.4	50.9	65.0	54.9				75.5	72.1	55.3
Cigarette smoking		54.7	51.4		51.7					56.4	58.2	
Fluoridation		59.2		50.0				51.5			50.0	
Geriatric programs		66.7	65.0		57.2	57.7	61.0			72.3	69.7	54.1
Housing		56.7									55.7	
Industrial health		59.2									55.7	
Narcotic control			59.1								63.9	
Nutrition and food fads				50.4								
Suicide prevention	51.1	65.2		54.4	53.9					62.8	62.3	
Tuberculosis control							50.0					
Family and child health area:												
Abortion											51.6	
Battered child syndrome										55.3		
Birth control and family planning	56.1			58.4	64.4					54.3	64.8	
School health programs					60.0		50.0				50.0	
Venereal disease		59.2					54.6					

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[1] 8 topics in the *socioenvironmental area* and 7 topics in the *family and child health area* were not reported as covered by a majority from any of the 11 schools.

indicating that the topic was covered. The distribution is presented in rank order and the school attended is identified:

Public health topic	Percent from school total in rank order[1]	Respondents graduated from—
Alcoholism control	75.5	Tulane
Geriatric programs	72.3	Do
Suicide prevention	65.2	UCLA
Birth control and family planning	64.8	Yale
Narcotic control	63.9	Do
Accident prevention	60.2	Harvard
School health programs	60.0	Hopkins
Fluoridation	59.2	UCLA
Industrial health	59.2	Do
Venereal disease	59.2	Do
Cigarette smoking	58.2	Yale
Housing	56.7	UCLA
Battered child syndrome	55.3	Tulane
Abortion	51.6	Yale
Nutrition and food fads	50.4	Harvard
Tuberculosis control	49.8	Minnesota
Migrant health	48.9	Berkeley
Delinquency control	48.9	Tulane
Sex education	47.5	Yale
Immunization programs	47.3	Minnesota
Postnatal care of mothers	45.4	Do
Out-of-wedlock children	45.1	Yale
Medical quackery	44.8	UCLA
Well-child conferences	44.4	Hopkins
Pregnancy and childbirth crises	43.6	Tulane
Noise abatement	40.8	UCLA
Premature births	40.0	Hopkins
Radiation control	35.0	Pittsburgh
Air and water pollution	34.4	Yale
Chest X-ray programs	33.0	Minnesota
Classes for expectant parents	31.9	Tulane

[1] Total for each school equals 100.0 percent.

As noted from the above list, the highest percents of respondents who indicated coverage of any of the public health topics originated with eight of the schools. No such respondents were in the Columbia, Michigan, or North Carolina groups. Respondents from two schools, UCLA and Yale, each noted the largest number of public health topics covered in relation to mental health.

Topics Noted by the Highest Percents of Respondents From Each School.—Which topics were *most frequently* covered in their mental health aspects according to respondents from each of the 11 schools? Except for respondents from Pittsburgh, all other topics reported below by the highest percent of respondents from a school were noted by a majority:

Respondents graduated from—	Public health topics most frequently reported	Percent from school total[1]
Berkeley	Birth control and family planning	56.1
UCLA	Alcoholism control	72.1
Columbia	Geriatric programs	65.0
Harvard	Accident prevention	60.2
Hopkins	Alcoholism control	65.0
Michigan	Geriatric programs	57.7
Minnesota	Do	61.0
North Carolina	Fluoridation	51.5
Pittsburgh	Alcoholism control	48.3
	Industrial health	48.3
Tulane	Alcoholism control	75.5
Yale	Do	72.1

[1] Total for each school equals 100.0 percent.

Public Health Topics Least Frequently Covered in Relation to Mental Health in Schools of Public Health

Topics Noted as Covered by Minorities of Respondents.—The 15 topics listed below were not considered as covered in relation to their mental health aspects by a single majority of respondents from any of the schools. In fact, from one-fourth to somewhat over one-third of all respondents indicated that these topics had been covered in relation to mental health aspects during their public health training:

Public health topics:	*Number equals 3,115 (100.0 percent)*
Immunization programs	36.5
Postnatal care of mothers	34.8
Sex education	34.5
Well-child conferences	33.6
Pregnancy and childbirth crises	33.0
Migrant health	32.8
Out-of-wedlock children	32.3

Public health topics:	*Number equals 3,115 (100.0 percent)*
Noise abatement	31.7
Medical quackery	31.0
Premature births	30.0
Delinquency control	29.9
Radiation control	27.3
Chest X-ray programs	26.5
Air and water pollution	25.4
Classes for expectant parents	25.4

Topics Noted by the Lowest Percents of Respondents and School Attended.—What are the lowest percents of respondents to indicate that the mental health aspects *of each of the 31 topics* was covered? The following list contains the 31 topics and the lowest percents of respondents from each school that indicated their coverage. The distribution is presented in rank order and the school attended is identified:

Public health topic	Percent from school total in rank order[1]	Respondents graduated from—
Noise abatement	14.9	Tulane
Migrant health	15.6	Pittsburgh
Sex education	16.1	Do
Chest X-ray programs	16.4	Harvard
Air and water pollution	16.8	Do
Nutrition and food fads	18.3	Hopkins
Classes for expectant parents	20.6	Pittsburgh
Delinquency control	20.9	Michigan
Abortion	21.0	North Carolina
Medical quackery	21.1	Hopkins
Radiation control	22.3	Tulane
Premature births	22.9	UCLA
Out-of-wedlock children	23.4	Do
Narcotic control	25.3	North Carolina
Pregnancy and childbirth crises	27.1	Do
Battered child syndrome	27.7	Do
Postnatal care of mothers	27.9	Harvard
Well-child conferences	28.1	North Carolina
Housing	28.3	Hopkins
Immunization programs	30.1	Harvard
Tuberculosis control	30.1	Do
Fluoridation	31.7	Do
Suicide Prevention	32.2	Pittsburgh
School health programs	33.3	Do
Venereal disease	33.3	Do
Birth control and family planning	34.9	Minnesota
Industrial health	35.1	North Carolina
Cigarette smoking	35.6	Minnesota
Geriatric programs	37.6	Harvard
Accident prevention	40.5	Columbia
Alcoholism control	45.9	North Carolina

[1] Total for each school equals 100.0 percent.

As noted from the above list, the lowest percents of respondents to indicate coverage of any of the 31 public health topics originated with nine schools. No such respondents however were in the Berkeley and Yale groups.

Topics Noted by the Lowest Percents of Respondents From Each School.—Which topics were *least frequently* noted as covered in their mental health aspects by respondents from each of the 11 schools? Eight of the 15 topics which were not covered in the view of a single majority of respondents from any of the schools fell also among the least frequently noted topics:

Respondents graduated from—	Public health topics least frequently reported	Percent from school total[1]
Berkeley	Radiation control	23.2
UCLA	Classes for expectant parents	22.4
Columbia	Noise abatement	19.5
Harvard	Chest X-ray programs	16.4
Hopkins	Air and water pollution	17.2
Michigan	Delinquency control	20.9
Minnesota	Do	23.2
North Carolina	Abortion	21.0
Pittsburgh	Migrant health	15.6
	Sex education	16.1
Tulane	Noise abatement	14.9
Yale	Classes for expectant parents	23.0

[1] Total for each school equals 100.0 percent.

IN SUMMARY, in the *socioenvironmental area,* the topic most frequently indicated as covered in relation to its mental health aspects was alcoholism control (55.3 percent). The range of replies for this topic was from 45.9 percent in the North Carolina group to 75.5 percent in the Tulane group. Next in rank order was geriatric programs (54.1 percent). This topic ranged from 37.6 percent in the Harvard group to 72.3 percent in the Tulane group. The topic in the *socioenvironmental area* least frequently covered with respect to its mental health aspects was air and water pollution (25.4 percent). In the Harvard group (16.8 percent) was the lowest percent of respondents to indicate that this topic was covered. The highest percent of respondents to indicate such coverage was 34.4 percent in the Yale group.

In the *family and child health area,* the topic most frequently indicated as covered in relation to mental health was birth control and family planning (49.2 percent). In the Minnesota group (34.9 percent) was the lowest percent of respondents noting such coverage; and in the Yale group (64.8 percent) the highest. The least frequently covered topic in relation to mental health in the *family and child health area* was classes for expectant parents (25.4 percent). The range of coverage was from 20.6 percent in the Pittsburgh group to 31.9 percent in the Tulane group.

The highest percent of respondents who indicated coverage of a topic was 75.5 percent in the Tulane group for alcoholism control. The lowest percent of respondents to report coverage of a topic was 14.9 percent also in the Tulane group for noise abatement.

Six of the 31 topics were covered in relation to mental health according to the highest percents of respondents from each of the schools. These topics were: Birth control and family planning, alcoholism control, geriatric programs, accident prevention, fluoridation, and industrial health. Nine of the 31 topics were covered according to the lowest percents of respondents from each of the schools. These topics were: Radiation control, classes for expectant parents, noise abatement, chest X-ray programs, air and water pollution, delinquency control, abortion, sex education, and migrant health.

QUALITY OF PRESENTATION

As indicated before, only those respondents who noted positively that the mental health aspects of a certain public health topic were *covered* during their public health training were asked to judge the quality of its presentation. The number of respondents assessing quality of presentation were therefore only a fraction of those who replied that the topic in question was covered in relation to its mental health aspects. For purposes of discussing the quality of presentation of specific public health topics in relation to mental health only those replies based on at least 50 respondents from individual schools have been considered.

Although a relatively small percent of respondents noted that they were exposed to the mental health aspects of the 31 public health topics listed (median: 36.5 percent), the median percent of respondents from that group indicating that these aspects were *well-presented* was 70.7 percent. While a slightly higher percent of respondents indicated coverage of the mental health aspects of topics in the *socioenvironmental area* (median: 37.8 percent) than of topics in the *family and child health area* (median: 34.1 percent), the median percent of respondents who indicated that the 19 *socioenvironmental area* topics were *well-presented* was 69.7 percent; the median for the 12 *family and child health area* topics was 72.3 percent. Thus, a somewhat higher percent of the respondents indicated that the topics in the *family and child health area* rather than the topics in the *socioenvironmental area* were *well-presented.*

The median percent of respondents indicating that the coverage was *not well-presented* was 12.6 percent and the median percent noting *don't recall* was somewhat higher, 13.8 percent. The median for *nonresponse* was 2.4 percent (see table 8:3).

The highest percents of respondents indicating that the mental health aspects of a public health topic were *well-presented* were 77.3 percent for fluoridation in the *socioenvironmental area* and 76.5 percent for pregnancy and childbirth crises in the *family and child health area.* The lowest percents indicating that a topic was *well-presented* were 62.0 percent for narcotic control in the *socioenvironmental area,* and 68.4 percent for sex education in the *family and child health area.*

Two distinct but related sets of questions have been used in examining the responses to those topics considered to have been *well-presented.* The first question is concerned with: Which topics were *well-presented* according to the *highest/lowest percents of respondents with the schools attended identified?* The second question refers to: Which topics were considered *well-presented* by the *highest/lowest percents of respondents*

TABLE 8:3.—*Quality of presentation of mental health aspects of public health topics covered in school of public health training*

[Medians and range of percents of respondents]

	Number of items	Well-presented, percent of respondents		Not well-presented, percent of respondents		Do not recall, percent of respondents		Nonresponse, percent of respondents	
		Median	Range	Median	Range	Median	Range	Median	Range
Public health topics	31	70.7	77.3–62.0	12.6	17.4–9.2	13.8	19.2– 9.9	2.4	3.3–0.9
Socioenvironmental area	19	69.7	77.3–62.0	12.7	16.6–9.2	15.2	19.2–10.1	2.5	3.3–0.9
Family and child health area ..	12	72.3	76.5–68.4	12.2	17.4–9.5	12.3	14.7– 9.9	2.2	3.3–1.5

from each of the 11 schools individually? Through this type of presentation, responses have been ranked: (1) In the context of the 31 topics listed, and (2) in the context of the schools themselves.

Mental Health Aspects of Public Health Topics Most Frequently Considered Well-Presented in Schools of Public Health

Topics Noted by the Highest Percents of Respondents and School Attended.—The highest percents of respondents to indicate that the 31 covered topics were *well-presented* are listed below in rank order with the respective school that they attended:

Public health topic	Percent from[1] school total in rank order	Respondents graduated from—
Premature births	91.7	Hopkins
Birth control and family planning	84.1	Harvard
Fluoridation	83.9	Do
Pregnancy and childbirth crises	83.6	Hopkins
Venereal disease	82.0	Minnesota
Immunization programs	81.9	Do
Nutrition and food fads	81.9	Columbia
Alcoholism control	81.7	Tulane
Well-child conferences	81.2	Hopkins
Radiation control	81.0	Pittsburgh
School health programs	80.6	Hopkins
Tuberculosis control	80.3	Minnesota
Battered child syndrome	80.2	Do
Geriatric programs	80.0	Pittsburgh
Postnatal care of mothers	79.5	Hopkins
Industrial health	79.0	UCLA
Cigarette smoking	78.7	Pittsburgh
Abortion	78.3	Hopkins
Medical quackery	78.2	Columbia
Suicide prevention	78.0	Tulane
Classes for expectant parents	76.5	Harvard
Migrant health	76.5	Hopkins
Out-of-wedlock children	75.8	North Carolina
Air and water pollution	75.6	Do
Noise abatement	74.6	Harvard
Chest X-ray programs	74.3	Michigan
Sex education	72.9	Do
Accident prevention	72.2	Pittsburgh
Narcotic control	71.8	Yale
Delinquency control	71.2	Michigan
Housing	70.6	Hopkins

[1] Total for each school based on responses to covered topics equals 100.0 percent.

As noted from the above list, the highest percents of respondents to indicate that the 31 covered public health topics were *well-presented* originated with 10 of the schools. No such respondents were in the Berkeley group. Respondents from Hopkins noted the largest number of public health topics considered *well-presented.*

Topics Noted by the Highest Percents of Respondents From Each School.—The highest percents of respondents from each school to indicate that the mental health aspects of a public health topic covered in class were *well-presented* are listed below:

Respondents graduated from—	Public health topics	Percent from school total[1]
Berkeley	Fluoridation	76.3
UCLA	Industrial health	79.0
Columbia	Nutrition and food fads	81.9
Harvard	Birth control and family planning	84.1
	Fluoridation	83.9
Hopkins	Premature births	91.7
Michigan	Fluoridation	81.8
Minnesota	Immunization programs	81.9
	Venereal disease	82.0
North Carolina	Premature births	83.5
Pittsburgh	Birth control and family planning	83.1
Tulane	Alcoholism control	81.7
Yale	Cigarette smoking	77.5
	Abortion	77.8

[1] Total for each school based on responses to covered topics equals 100.0 percent.

Mental Health Aspects of Public Health Topics Least Frequently Considered Well-Presented in Schools of Public Health

Topics Noted by the Lowest Percents of Respondents and School Attended.—The 31 topics rated by the lowest percents of respondents as *well-presented* and the schools that they attended follows:

Public health topic	Percent from school total in rank order[1]	Respondents graduated from—
Narcotic control	52.1	North Carolina
Noise abatement	56.0	Columbia
Accident prevention	56.6	Berkeley
Suicide prevention	57.5	Columbia
Delinquency control	58.1	UCLA
Air and water pollution	58.5	Columbia
Nutrition and food fads	59.6	UCLA
Radiation control	59.7	Berkeley
Alcoholism control	60.2	Yale
School health programs	60.4	UCLA
Medical quackery	60.7	Harvard
Geriatric programs	61.7	North Carolina
Housing	61.8	Yale
Migrant health	62.5	Minnesota
Battered child syndrome	62.6	Harvard
Sex education	62.6	Columbia
Chest X-ray programs	62.7	UCLA
Cigarette smoking	62.9	North Carolina
Industrial health	63.6	Do
Tuberculosis control	64.0	UCLA
Classes for expectant parents	64.3	Columbia
Well-child conferences	64.8	Harvard
Postnatal care of mothers	65.5	UCLA
Birth control and family planning	65.7	Do
Venereal disease	66.0	North Carolina
Premature births	66.2	Columbia
Abortion	66.3	Minnesota
Out-of-wedlock children	66.7	Berkeley
Pregnancy and childbirth crises	70.7	UCLA
Fluoridation	71.1	Minnesota
Immunization programs	71.1	Berkeley

[1] Total for each school based on responses to covered topics equals 100.0 percent.

As noted from the above list, the lowest percents of respondents to indicate that the 31 covered public health topics were *well-presented* originated with seven schools. No such respondents were in the Hopkins, Michigan, Pittsburgh, or Tulane groups. Even the topics rated by the lowest percents of respondents as *well-presented* were so considered by more than one-half of the respondents from each school.

Topics Noted by the Lowest Percents of Respondents From Each School.—The lowest percents of respondents from each school observing that the mental health aspects of a public health topic covered in class had been *well-presented* were as follows:

Respondents graduated from—	Public health topic	Percent from school total[1]
Berkeley	Accident prevention	56.6
UCLA	Delinquency control	58.1
Columbia	Noise abatement	56.0
Harvard	Medical quackery	60.7
Hopkins	Narcotic control	60.0
Michigan	Do	58.5
Minnesota	Do	60.6
North Carolina	Do	52.1
Pittsburgh	Do	62.7
Tulane	Geriatric programs	72.1
Yale	Alcoholism control	60.2

[1] Total for each school based on responses to covered topics equals 100.0 percent.

IN SUMMARY, the coverage of the mental health aspects of public health topics was generally considered to be *well-presented.* In the *socioenvironmental area,* the highest percent of respondents indicating that the mental health aspects of a public health topic were *well-presented* was 77.3 percent for fluoridation. This distribution ranged from 71.1 percent in the Minnesota group to 83.9 percent in the Harvard group. The topic in the *socioenvironmental area* whose mental health aspects were least frequently considered to have been *well-presented* was narcotic control (62.0 percent). The frequency of this reply ranged from 52.1 percent in the North Carolina group to 71.8 percent in the Yale group.

In the *family and child health area,* the highest percent of respondents indicating that the mental health aspects of a public health topic were *well-presented* was 76.5 percent for pregnancy and childbirth crises. The range for this reply was from 70.7 percent in the UCLA group to 83.6 percent in the Hopkins group. The topic in the *family and child health area* whose mental health aspects were least frequently considered to have been *well-presented* was sex education (68.4 percent). The frequency of this reply ranged from 62.6 percent in the Columbia group to 72.9 percent in the Michigan group.

The highest percent of respondents who considered the mental health aspects of a topic *well-presented* was 91.7 percent in the Hopkins group who so rated the presentation on premature births. The lowest percent of respondents considering a covered topic *well-presented* was 52.1 percent from North Carolina who made that indication for narcotic control.

The highest percents of respondents from each of the schools indicated as *well-presented* the mental health aspects of the following public health topics: Fluoridation, industrial health, birth control and family planning, premature births, venereal disease, immunization programs, alcoholism control, nutrition and food fads, abortion, and cigarette smoking. The lowest percents of respondents from each of the schools indicated that the mental health aspects of the following public health topics were *well-presented:*

Accident prevention, delinquency control, noise abatement, medical quackery, narcotic control, geriatric programs, and alcoholism control.

USEFULNESS IN WORK

As with the previous analysis on quality of presentation, only those respondents indicating that the mental health aspects of the public health topics were *covered* are included in the discussion which follows on the usefulness of such coverage in current work. Similarly, in those instances in which the size of responses to coverage of a topic was less than 50, the number in the base of the responses to usefulness has been deemed too small for analysis, and excluded from consideration.

The median response indicating that the mental health aspects of the 31 public health topics had been *of great use* in the work of respondents was 20.9 percent; *of moderate use* was 33.1 percent, and *of little use* 36.8 percent. The median for *nonresponses* was 7.4 percent. In general, more respondents considered topics in the *family and child health area* (median: 26.6 percent) to be *of great use* than topics in the *socioenvironmental area* (median: 15.8 percent) (see table 8:4).

Following is an examination of the replies which deemed the covered topics as *of great use, of moderate use,* and *of little use* to the current work activities of respondents. The examination is concerned with two distinct questions: (1) To what extent did a plurality or majority of respondents indicate that a given topic was *of great, of moderate,* or *of little use?* (2) Which topics were considered *of great, of moderate,* or *of little use* by respondents from individual schools?

Of Great Use

Overall, none of the topics covered were considered either by a plurality or majority of respondents to be *of great use,* but rather all topics were assessed to be either *of moderate* or *of little use.* The highest percents of respondents rated 22 topics as *of little use,* seven topics as *of moderate use,* and equal percents of respondents rated two topics as *of little* and *of moderate use.*

The highest percents of respondents to consider that the mental health aspects of a public health topic was *of great use* to their work were 28.8 percent who indicated pregnancy and childbirth crises and another 28.6 percent who indicated premature births, both in the *family and child health area;* in the *socioenvironmental area,* nutrition and food fads was considered as *of great use,* by 26.7 percent. The lowest percents of respondents to consider that the mental health aspects of a public health topic was *of great use* to their work were 12.1 percent who indicated noise abatement in the *socioenvironmental area* and 21.1 percent abortion in the *family and child health area.*

TABLE 8:4.—*Usefulness in work of mental health aspects of public health topics covered in school of public health training*

[Medians and range of percents of respondents]

	Number of items	Of great use, percent of respondents		Of moderate use, percent of respondents		Of little use, percent of respondents		Nonresponse, percent of respondents	
		Median	Range	Median	Range	Median	Range	Median	Range
Public health topics	31	20.9	28.8–12.1	33.1	45.7–28.8	36.8	50.2–29.9	7.4	10.1–3.3
Socioenvironmental area	19	15.8	26.7–12.1	34.8	45.7–28.8	41.3	50.2–29.9	7.1	10.1–3.3
Family and child health area	12	26.6	28.8–21.1	32.3	34.1–29.4	33.9	41.4–31.9	7.7	9.1–6.7

The highest percents of respondents from each school to consider that the mental health aspects of a covered topic were *of great use* were as follows:

Respondents graduated from—	Public health topic	Percent from school total [1]
Berkeley	Premature births	37.5
UCLA	Sex education	34.8
Columbia	Geriatric programs	23.4
Harvard	Industrial health	27.6
Hopkins	Pregnancy and childbirth crises	29.9
Michigan	Nutrition and food fads	39.3
Minnesota	Pregnancy and childbirth crises	32.8
	Well-child conferences	33.0
North Carolina	Classes for expectant parents	34.9
Pittsburgh	Premature births	28.8
Tulane	Cigarette smoking	20.8
Yale	Battered child syndrome	24.6

[1] Total from each school based on responses to covered topics equals 100.0 percent.

The lowest percents of respondents from each school to consider that the mental health aspects of a topic was *of great use* were as follows:

Respondents graduated from—	Public health topic	Percent from school total [1]
Berkeley	Air and water pollution	7.4
UCLA	Noise abatement	13.4
Columbia	Fluoridation	8.3
Harvard	Geriatric programs	9.4
Hopkins	Fluoridation	8.8
Michigan	Noise abatement	10.1
Minnesota	Industrial health	7.0
North Carolina	Noise abatement	2.5
Pittsburgh	Suicide prevention	6.9
Tulane	Do	15.3
Yale	Alcoholism control	11.4

[1] Total from each school based on responses to covered topics equals 100.0 percent.

To review, 10 topics were noted as *of great use* by the highest percents of respondents from each school. Four of these topics were in the *socioenvironmental area;* i.e., geriatric programs, industrial health, nutrition and food fads, and cigarette smoking, and six in the *family and child health area;* i.e., premature births, sex education, pregnancy and childbirth crises, well-child conferences, classes for expectant parents, and battered child syndrome. The highest percent of respondents from any school to consider a topic *of great use* was 39.3 percent from Michigan who so noted for nutrition and food fads.

The seven topics described by the lowest percents of respondents from each school as *of great use* all were in the *socioenvironmental area:* Air and water pollution, fluoridation, geriatric programs, noise abatement, industrial health, suicide prevention, and alcoholism control.

Of Moderate Use

Seven topics were considered by a plurality of respondents to be *of moderate use:* Accident prevention (45.7 percent), chest X-ray programs (42.8 percent), geriatric programs (35.7 percent), immunization programs (37.0 percent), nutrition and food fads (34.8 percent), pregnancy and childbirth crises (32.5 percent), and well-child conferences (32.5 percent). The highest percents of respondents were equally divided also in designating tuberculosis control as *of moderate use* (35.9 percent) and as *of little use* (35.8 percent), and sex education as *of moderate use* (32.5 percent) and as *of little use* (32.5 percent).

The topics considered as *of moderate use* by the highest percents of the respondents were accident prevention (45.7 percent) in the *socioenvironmental area* and battered child syndrome (34.1 percent) in the *family and child health area.* However, overall the topic battered child syndrome was considered *of little use* by the highest percent of respondents (36.8 percent). Considered to be *of moderate use* by the lowest percents of the respondents were noise abatement (28.8 percent) in the *socioenvironmental area* and abortion (29.4 percent) in the *family and child health area.*

The highest percents of respondents from each school to consider that a public health topic covered in relation to its mental health aspects was *of moderate use* were as follows:

Respondents graduated from—	Public health topic	Percent from school total[1]
Berkeley	Accident prevention	49.4
UCLA	Chest X-ray programs	49.2
Columbia	School health programs	47.7
Harvard	Accident prevention	48.5
Hopkins	Abortion	46.4
Michigan	Accident prevention	40.9
Minnesota	Chest X-ray programs	50.0
	Radiation control	49.5
North Carolina	Accident prevention	49.5
Pittsburgh	Do	48.1
Tulane	Suicide prevention	39.0
Yale	Cigarette smoking	36.6

[1] Total for each school based on responses to covered topics equals 100.0 percent.

The lowest percents of respondents from each school to indicate that the mental health aspects of a topic covered was *of moderate use* were as follows:

Respondents graduated from—	Public health topic	Percent from school total[1]
Berkeley	Abortion	26.1
	School health programs	26.0
UCLA	Abortion	22.2
	Postnatal care of mothers	22.4
Columbia	Abortion	25.6
Harvard	Suicide prevention	22.0
Hopkins	Geriatric programs	26.2
Michigan	Abortion	21.5
Minnesota	Postnatal care of mothers	28.7
North Carolina	Suicide prevention	27.5
	Classes for expectant parents	27.4
Pittsburgh	Premature births	19.2
Tulane	Geriatric programs	29.4
Yale	Fluoridation	19.7

[1] Total for each school based on responses to covered topics equals 100.0 percent.

To review, the seven topics which the highest percents of respondents from each school considered *of moderate use* consisted of five in the *socioenvironmental area;* i.e., accident prevention, chest X-ray programs, radiation control, suicide prevention, and cigarette smoking, and two in the *family and child health area;* i.e., school health programs and abortion.

The highest percents of respondents from any of the schools to rate a topic *of moderate use* were 50.0 percent from Minnesota in rating chest X-ray programs, 49.5 percent also from Minnesota with regard to radiation control, and 49.5 percent from North Carolina in relation to accident prevention. Of the eight topics described by the lowest percents of respondents from each school as *of moderate use,* three were in the *socioenvironmental area;* i.e., suicide prevention, geriatric programs, and fluoridation, and five in the *family and child health area;* i.e., abortion, school health programs, postnatal care of mothers, classes for expectant parents, and premature births.

Of Little Use

Of the 31 topics 22 were judged by a plurality or by a majority of the respondents to be *of little use:* Air and water pollution (45.8 percent), alcoholism control (44.4 percent), cigarette smoking (41.1 percent), delinquency control (41.5 percent), fluoridation (46.4 percent), housing (40.9 percent), industrial health (43.2 percent), medical quackery (41.9 percent), migrant health (45.7 percent), narcotic control (41.3 percent), noise abatement (50.2 percent), radiation control (40.7 percent), suicide prevention (45.1 percent), abortion (41.4 percent), battered child syndrome (36.8 percent), birth control and family planning (33.9 percent), classes for expectant parents (33.5 percent), out-of-wedlock children (34.4 percent), postnatal care of mothers (35.2 percent), premature births (32.9

percent) school health programs (33.8 percent), and venereal disease (37.8 percent).

The topics considered *of little use* by the highest percents of respondents were noise abatement (50.2 percent) in the *socioenvironmental area* and abortion (41.4 percent) in the *family and child health area*. The topics considered as *of little use* by the lowest percents of respondents were immunization programs (29.9 percent) in the *socioenvironmental area,* and pregnancy and childbirth crises (31.9 percent) and well-child conferences (32.0 percent) in the *family and child health area.*

The mental health aspects of nine of the 31 public health topics were considered *of little use* by the highest percents of respondents from each school:

Respondents graduated from—	Public health topic	Percent from school total[1]
Berkeley	Noise abatement	50.0
	Air and water pollution	50.0
UCLA	Do	55.4
Columbia	Fluoridation	53.3
	Sex education	52.5
Harvard	Medical quackery	57.1
Hopkins	Narcotic control	50.0
Michigan	Noise abatement	52.2
	Alcoholism control	51.6
Minnesota	Fluoridation	47.4
North Carolina	Noise abatement	65.3
Pittsburgh	School health programs	51.7
Tulane	Geriatric programs	39.7
Yale	Fluoridation	60.7

[1] Total for each school based on responses to covered topics equals 100.0 percent.

The mental health aspects of eight of the 31 public health topics were considered *of little use* by the lowest percents of respondents from each school:

Respondents graduated from—	Public health topic	Percent from school total[1]
Berkeley	Pregnancy and childbirth crises	21.0
UCLA	Chest X-ray programs	23.7
Columbia	School health programs	29.5
Harvard	Accident prevention	29.4
Hopkins	School health programs	31.5
Michigan	Nutrition and food fads	23.6
Minnesota	Out-of-wedlock children	23.0
North Carolina	Well-child conferences	26.2
Pittsburgh	Do	27.3
Tulane	Birth control and family planning	31.4
Yale	School health programs	34.4

[1] Total for each school based on responses to covered topics equals 100.0 percent.

Thus, the nine topics which the highest percents of respondents from each school considered *of little use* included seven in the *socioenvironmental area;* i.e., air and water pollution, noise abatement, fluoridation, medical quackery, narcotic control, alcoholism control, and geriatric programs, and two in the *family and child health area;* i.e., sex education and school health programs. The highest percent of respondents from any school to consider a topic *of little use* was 65.3 percent from North Carolina in noting noise abatement.

Of the eight topics described by the lowest percents of respondents as *of little use,* three were in the *socioenvironmental area;* i.e., chest X-ray programs, accident prevention, and nutrition and food fads, and five in the *family and child health area;* i.e., pregnancy and childbirth crises, school health programs, out-of-wedlock children, well-child conferences, and birth control and family planning.

OVERVIEW

According to better than one-half of all the respondents, only two of the 31 topics, alcoholism control and geriatric programs, were covered in relation to their mental health aspects in a school of public health. Majorities of respondents from eight of the schools noted such coverage for alcoholism control and from seven of the schools for geriatric programs. A total of 11 of the 19 *socioenvironmental area* topics, and five of 12 *family and child health area* topics were, respectively, reported as covered by majorities of respondents from at least one school of public health. The highest percents of respondents from each school indicated coverage of the following topics: Birth control and family planning, alcoholism control, geriatric programs, accident prevention, fluoridation, and industrial health.

The lowest percents of respondents from each school indicated coverage of the mental health aspects of radiation control, classes for expectant parents, noise abatement, chest X-ray programs, air and water pollution, delinquency control, abortion, migrant health, and sex education.

The topics covered in relation to mental health were generally considered to have been *well-presented.* Fluoridation, and pregnancy and childbirth crises were considered most frequently to have been *well-presented.* The topic considered *well-presented* by the lowest percent of respondents was narcotic control.

Of those who indicated coverage, the highest percents of respondents from each school rated the following topics as *well-presented:* Fluoridation, industrial health, nutrition and food fads, birth control and family planning, premature births, venereal disease, immunization programs, alcoholism control, abortion, and cigarette smoking. The lowest percents of respondents from each school indicated the following topics as *well-presented:* Accident prevention, delinquency control, noise abatement, medical quackery, narcotic control, geriatric programs, and alcoholism control. Even among the topics least frequently considered *well-presented,* only minorities from each school would not make such a positive appraisal.

In general, the coverage of the mental health aspects of the public health topics was likely to be considered *of little use* or *of moderate use* rather than *of great use* to current work or practice. According to the highest percents of respondents, 22 of the topics were considered *of little use,* seven *of moderate use,* and two were equally divided between those *of little use* and those *of moderate use.* The topic noise abatement was considered *of great use* by the lowest percent of respondents. The highest percents of respondents to note that a topic was *of great use* to their work indicated both pregnancy and childbirth crises and premature births.

In no instance, however, in comparing the size of the highest percents of responses from each school to each topic for each of the three levels of usefulness, did the highest percent of respondents from a particular school rate any topic as *of great use.* The highest percent of respondents from any school to indicate that the mental health aspect of a topic was *of great use* was 39.3 percent from Michigan who noted nutrition and food fads. The mental health aspects of the following nine public health topics had been *of little use* according to the highest percents of respondents from each school: Air and water pollution, noise abatement, fluoridation, sex education, medical quackery, narcotic control, alcoholism control, school health programs, and geriatric programs. The highest percent of respondents from each school indicated the following seven topics to be *of moderate use:* Accident prevention, chest X-ray programs, school health programs, abortion, radiation control, suicide prevention, and cigarette smoking.

CHAPTER 9

APPRAISALS OF MENTAL HEALTH TOPICS COVERED IN PUBLIC HEALTH TRAINING

THIS chapter is specifically concerned with appraisals of the coverage of distinctly identifiable mental health content areas, subject matter, and activities in a public health training context. As indicated in the introductory paragraphs to the preceding chapter on mental health aspects of public health topics, respondents were questioned regarding the coverage of 43 mental health topics, the quality of presentation, and level of usefulness of the covered topics. The mental health topics were organized into three areas each broadly reflecting components of the scope of public health-mental health work: (*a*) A *basic area* which included nine topics in personality theory, socialization, and interpersonal relations; (*b*) a *general area* which included 26 topics related to primary prevention techniques of mental health work, administration, and information or content; and (*c*) a *specialized area* which included eight topics concerned with secondary and tertiary prevention.

COVERAGE OF MENTAL HEALTH CONTENT TOPICS

The fourfold approach in presenting the responses on coverage of the mental health topics is identical to that employed in the previous chapter on coverage of the mental health aspects of public health topics: (1) How many respondents *in the whole study population* indicated that a given mental health topic was covered? (2) In the view of *majorities of respondents from individual schools,* which mental health topics were covered? (3) Which mental health topics were covered according to the *highest/lowest percents of respondents and which schools they attended?* (4) Which topics were covered in the view of the *highest/lowest percents of respondents from each of the 11 schools?*

According to *majorities of all respondents,* seven of the 43 mental health topics were covered in their public health training: 1,922 or 61.7 percent for importance of feelings and emotions, 1,871 or 60.1 percent for small-group interaction, 1,819 or 58.4 percent for understanding a client's attitudes, fears, and prejudices, 1,717 or 55.1 percent for role of the family, 1,695 or 54.4 percent for public attitudes toward the mentally ill, 1,674 or 53.7 percent for individual personality dynamics, and 1,558 or 50.0 percent for role of conscious and unconscious factors. The smallest number of all respondents to indicate that a mental health topic was covered was 324 or 10.4 percent for psychiatric registers.

TABLE 9:1.—*Coverage of mental health topics in school of public health training*

[Medians and range of percents of respondents]

	Number of items	Yes, percent of respondents		No, percent of respondents		Do not recall, percent of respondents		Nonresponse, percent of respondents	
		Median	Range	Median	Range	Median	Range	Median	Range
Mental health topics	43	35.2	61.7–10.4	37.3	58.4–19.6	17.8	26.0–12.3	8.1	11.5–6.1
Basic area	9	53.7	61.7–32.3	24.1	35.5–19.6	15.8	25.0–12.6	7.0	8.3–6.1
Personality theory	4	51.9	61.7–32.3	24.6	35.5–19.6	16.9	25.0–12.6	6.7	7.2–6.1
Socialization	[1] 2	....	55.1–44.8	....	30.0–23.0	....	17.2–13.5	....	8.3–7.9
Interpersonal relations	[1] 3	....	60.1–49.1	....	24.8–20.5	....	19.1–12.9	....	7.0–6.5
General area	26	34.2	54.4–10.4	39.3	58.4–25.6	18.9	25.5–12.3	8.0	11.3–6.8
Techniques	7	35.2	48.0–26.8	39.0	41.1–28.0	18.9	24.6–15.8	7.5	11.3–7.0
Administration	13	29.2	42.7–17.6	42.7	58.4–31.1	19.1	25.5–14.2	8.2	8.7–6.8
Information	6	38.7	54.4–10.4	35.3	55.2–25.6	18.0	25.5–12.3	8.1	8.9–7.7
Specialized area	8	29.9	43.2–16.2	42.1	47.7–31.7	18.7	26.0–16.5	8.4	11.5–8.2
Secondary prevention	5	26.3	43.2–16.2	46.3	47.7–31.7	17.8	26.0–16.5	8.3	11.5–8.2
Tertiary prevention	[1] 3	....	35.2–29.1	....	40.5–36.8	....	21.9–17.9	....	8.6–8.3

[1] Medians are reported only for sections containing 4 or more topics.

Except for the topic public attitudes toward the mentally ill which was in the *general area,* all other topics noted as covered by one-half or more of all the respondents were in the *basic area.* The largest group of respondents indicating coverage for a topic in the *specialized area* was 43.2 percent who indicated types of mental health treatment agencies and services. The topics noted by the smallest groups of respondents were 16.2 percent for social breakdown syndrome and 10.4 percent for psychiatric registers; these topics were, respectively, the least frequently noted in the *general* and *specialized areas.* The least frequently reported topic in the *basic area* was survey of personality theories which was indicated by 32.3 percent of all respondents.

The two topics covered most frequently according to respondents from individual schools were importance of feelings and emotions and understanding a client's attitudes, fears, and prejudices; one-half or more of the respondents from all 11 schools reported that these two topics had been covered.

The median percent of all respondents who indicated coverage of the 43 mental health topics was 35.2 percent. Mental health topics in the *basic area,* which included personality theory, socialization, and interpersonal relations, were noted as covered by more respondents than the topics in any other area; the median percent of respondents who noted coverage of the *basic area* topics was 53.7 percent. Much smaller percents of respondents indicated coverage of the *general area* which included techniques, administration, and informational aspects (34.2 percent median) and of the *specialized area* which included secondary and tertiary prevention aspects in mental health (29.9 percent median). The range of all responses indicating that the 43 mental health topics were covered was from 61.7 to 10.4 percent (see table 9:1).

Mental Health Topics Most Frequently Covered in Schools of Public Health

Topics Noted as Covered by Majorities of Respondents.—As indicated in table 9:2, one-half or more of all respondents from one or more schools noted coverage of 26 of the 43 mental health topics listed. Nine of these were *basic area* topics, 14 *general area* topics, and three *specialized area* topics. Also, a majority of respondents from each of the 11 schools indicated covereage of at least one mental health topic. By school, the number of mental health topics which in the view of majorities were covered were: Yale 22, Columbia 20, Tulane 14, UCLA 12, Minnesota 10, Harvard eight, North Carolina eight, Berkeley seven, Hopkins six, Michigan five, and Pittsburgh two.[1]

Thus, according to a majority of respondents, by school, all nine of the *basic area* topics, 14 of the 26 *general area* topics, and three of the eight *specialized area* mental health topics were covered. Majorities of re-

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[1] See app. G, table 1, pp. 289–293, for percent coverage of all mental health topics.

TABLE 9:2.—*Majorities of 1961–67 graduates from schools of public health indicating coverage of mental health topics*

Mental health topics	Berkeley	UCLA	Columbia	Harvard	Hopkins	Michigan	Minnesota	North Carolina	Pittsburgh	Tulane	Yale	Total
Number	513	201	257	226	180	565	315	462	180	94	122	3,115
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
A. BASIC AREA												
PERSONALITY THEORY												
Importance of feelings and emotions	60.4	54.7	71.2	57.5	55.0	58.9	66.0	68.0	50.0	57.4	74.6	61.7
Individual personality dynamics	51.5	......	71.2	......	......	......	61.0	60.0	......	56.4	69.7	53.7
Role of conscious and unconscious factors	50.1	......	60.7	......	......	......	55.9	53.7	......	54.3	67.2	50.0
Survey of personality theories	......	......	......	......	......	......	......	......	......	......	50.0	......
SOCIALIZATION												
Infancy and the preschool period	......	......	63.8	......	50.6	......	......	51.1	......	52.1	51.6	......
Role of the family	50.7	50.2	63.4	56.6	60.0	51.5	52.7	61.7	......	64.9	66.4	55.1
INTERPERSONAL RELATIONS												
Sensitivity to behavioral and verbal cues	53.0	......	56.8	......	......	......	57.8	50.2	......	52.1	52.5	......
Small-group interaction	62.4	54.7	73.2	58.0	......	57.3	68.6	63.0	......	50.0	62.3	60.1
Understanding a client's attitudes, fears, and prejudices	64.3	52.2	62.6	57.1	52.2	54.5	62.2	59.3	51.1	59.6	60.7	58.4
B. GENERAL AREA												
TECHNIQUES OF MENTAL HEALTH WORK												
Principles of interviewing	......	......	52.1	......	......	......	53.3	......	......	......	......	......
Other preventive mental health intervention techniques; e.g., community organization, mental health education, parent education and crisis intervention	......	52.2	55.3	......	......	......	52.7	......	......	......	50.8	......

TABLE 9:2.—*Majorities of 1961–67 graduates from schools of public health indicating coverage of mental health topics*—Continued

Mental health topics	Berkeley	UCLA	Columbia	Harvard	Hopkins	Michigan	Minnesota	North Carolina	Pittsburgh	Tulane	Yale	Total
Referral to special mental health facilities										51.1		
ADMINISTRATION OF MENTAL HEALTH WORK												
Comprehensive community mental health centers		53.2	52.5								59.0	
Distribution of mental disorders in the general population		52.7	59.5	57.5	51.1					57.4	68.0	
Mental health functions of basic community services in health, education, and welfare		55.7	53.3								53.3	
Organization and delivery of mental health services		51.2	59.1								62.3	
Principles of comprehensive mental health planning											53.3	
State, local, and Federal mechanisms for financing mental health programs		51.7										
Etiological factors in mental disorders			60.7	56.2						60.6	64.8	
Public attitudes toward the mentally ill		62.7	67.7	57.5	50.6	52.6	57.8			61.7	77.9	54.4
Roles and functions of mental health specialists											50.0	
Sources of epidemiological data on mental disorders				59.3							55.7	

TABLE 9:2.—*Majorities of 1961–67 graduates from schools of public health indicating coverage of mental health topics*—Continued

Mental health topics	Berkeley	UCLA	Columbia	Harvard	Hopkins	Michigan	Minnesota	North Carolina	Pittsburgh	Tulane	Yale	Total
Varieties of mental disorders	......	......	67.3	......	......	......	......	......	......	60.6	63.1	......
C. SPECIALIZED AREA SECONDARY PREVENTION												
Methods for care of patients with mental disorders; e.g., psychological-psychiatric, pharmacological, milieu or social environmental	......	......	51.8	......	......	......	......	......	......	......	52.5	......
Types of mental health treatment agencies and services	......	55.7	56.0	......	......	......	......	......	......	55.3	55.7	......
TERTIARY PREVENTION												
Psychiatric rehabilitation agencies and services	......	......	52.1	......	......	......	......	......	......	......	......	......

NOTE.—Not included are 17 topics not reported as covered by a majority from any of the schools.

spondents from all 11 schools noted coverage of the importance of feelings and emotions, and understanding a client's attitudes, fears, and prejudices. The role of the family was covered according to majorities from 10 schools, while small-group interaction was covered according to majorities from nine schools. Majorities from eight schools reported coverage of public attitudes toward the mentally ill. The topics individual personality dynamics, role of conscious and unconscious factors, infancy and the preschool period, sensitivity to behavioral and verbal cues, other preventive mental health intervention techniques, distribution of mental disorders in the general population, etiological factors in mental disorders, and types of mental health treatment agencies and services were covered according to majorities from between four to six schools. Majorities from two to three of the schools noted coverage of principles of interviewing, comprehensive community mental health centers, mental health functions of basic community services in health, education, and welfare, organization and delivery of mental health services, sources of epidemiological data on mental disorders, varieties of mental disorders, and methods for care of patients with mental disorders. Majorities from a single school indicated coverage of survey of personality theories, referral to special mental health facilities, principles of comprehensive mental health planning, State, local, and Federal mechanisms for financing mental health programs, roles and functions of mental health specialists, and psychiatric rehabilitation agencies and services.

Topics Noted by the Highest Percents of Respondents and School Attended.—What are the highest percents of respondents to indicate that *each of the 43 mental health topics* was covered? The following list contains the 43 topics and the highest percents of respondents indicating that the topic was covered. The distribution is presented in rank order and the school attended is identified:

Mental health topic	Percent from school total in rank order [1]	Respondents graduated from—
Public attitudes toward the mentally ill	77.9	Yale
Importance of feelings and emotions	74.6	Do
Small-group interaction	73.2	Columbia
Individual personality dynamics	71.2	Do
Distribution of mental disorders in the general population.	68.0	Yale
Varieties of mental disorders	67.3	Columbia
Role of conscious and unconscious factors	67.2	Yale
Role of the family	66.4	Do
Etiological factors in mental disorders	64.8	Do
Understanding a client's attitudes, fears, and prejudices.	64.3	Berkeley
Infancy and the preschool period	63.8	Columbia

(continued)

Mental health topic	Percent from school total in rank order [1]	Respondents graduated from—
Organization and delivery of mental health services.	62.3	Yale
Sources of epidemiological data on mental disorders.	59.3	Harvard
Comprehensive community mental health centers	59.0	Yale
Sensitivity to behavioral and verbal cues	57.8	Minnesota
Types of mental health treatment agencies and services.	56.0	Columbia
Mental health functions of basic community services in health, education, and welfare.	55.7	UCLA
Other preventive mental health intervention techniques.	55.3	Columbia
Principles of interviewing	53.3	Minnesota
Principles of comprehensive mental health planning.	53.3	Yale
Methods for care of patients with mental disorders.	52.5	Do
Psychiatric rehabilitation agencies and services	52.1	Columbia
State, local, and Federal mechanisms for financing mental health programs.	51.7	UCLA
Referral to special mental health facilities	51.1	Tulane
Survey of personality theories	50.0	Yale
Roles and functions of mental health specialists	50.0	Do
Adjustment problems of ex-patients and their families.	49.0	Columbia
How to recognize mental disorders	47.9	Tulane
Means of improving the mental health functioning of community care givers.	45.1	Yale
Principles of consultation	40.4	Tulane and Berkeley
Psychiatric rehabilitation functions of public health workers.	40.4	Tulane
Identification and relief of mental hazards	40.4	Do
Means of introducing innovation and change in mental health programs.	37.7	Columbia
"Anticipatory guidance" as related to the primary prevention of mental disorders.	37.2	Hopkins
Mental health medico-legal problems	36.3	Harvard
Coordinating interagency relationships in mental health.	36.2	Columbia
Mental disorder casefinding role of public health workers.	35.1	Tulane
How to develop programs for the control of mental disorders.	34.6	Columbia
Role of the private sector in mental health programming and financing.	30.8	UCLA
Utilization of mental health data for program evaluation.	30.3	Yale
Budget planning for mental health programs	30.1	Harvard
Social breakdown syndrome	30.0	Columbia
Psychiatric registers	24.4	Hopkins

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[1] Total for each school equals 100.0 percent.

As noted from the above list, the highest percents of respondents to indicate coverage of any of the 43 mental health topics originated with eight of the schools. No such respondents were in the Michigan, North Carolina, and Pittsburgh groups. Respondents from Yale noted the largest number of mental health topics covered.

Topics Noted by the Highest Percents of Respondents From Each School.—Which mental health topics were *most frequently* covered according to respondents from each of the eleven schools? Each mental health topic listed below had been reported by the highest percents of respondents from a school:

Respondents graduated from—	Mental health topics most frequently reported	Percent from school total [1]
Berkeley	Understanding a client's attitudes, fears, and prejudices	64.3
UCLA	Public attitudes toward the mentally ill	62.7
Columbia	Small-group interaction	73.2
Harvard	Sources of epidemiological data on mental disorders	59.3
Hopkins	Role of the family	60.0
Michigan	Importance of feelings and emotions	58.9
Minnesota	Small-group interaction	68.6
North Carolina	Importance of feelings and emotions	68.0
Pittsburgh	Understanding a client's attitudes, fears, and prejudices	51.1
Tulane	Role of the family	64.9
Yale	Public attitudes toward the mentally ill	77.9

[1] Total for each school equals 100.0 percent.

Mental Health Topics Least Frequently Covered in Schools of Public Health

Topics Noted as Covered by Minorities of Respondents.—Of the 43 mental health topics, 17 were not noted by a majority of respondents from any school. In fact, from one-tenth to somewhat over one-third of all respondents indicated that these topics had been covered. These topics are listed below in rank order:

Mental health topics:	Number equals 3,115 (100.0 percent)
Adjustment problems of ex-patients and their families	35.2
Principles of consultation	35.2
Means of improving the mental health functioning of community care givers; e.g., clergy, police, and teachers	32.8
Coordinating interagency relationships in mental health	30.7
Psychiatric rehabilitation functions of public health workers	29.1
Means of introducing innovation and change in mental health programs	28.4
"Anticipatory guidance" as related to the primary prevention of mental disorders	26.8
How to recognize mental disorders	26.3
Identification and relief of mental hazards	24.9
Mental disorder casefinding role of public health workers	23.9
Mental health medico-legal problems	21.8
How to develop programs for the control of mental disorders	21.3
Role of the private sector in mental health programing and financing	20.4
Utilization of mental health data for program evaluation	20.3
Budget planning for mental health programs	17.6
Social breakdown syndrome	16.2
Psychiatric registers	10.4

Topics Noted by the Lowest Percents of Respondents and School Attended.—What are the lowest percents of respondents to indicate that *each of the 43 mental health topics* was covered? The following list contains the 43 topics and the lowest percents of respondents that indicated their coverage. The distribution is presented in rank order and the school attended is identified:

Mental health topic	Percent from school total in rank order [1]	Respondents graduated from—
Psychiatric registers	4.8	North Carolina
Social breakdown syndrome	9.4	Pittsburgh
Budget planning for mental health programs	10.2	North Carolina
Mental health medico-legal problems	10.4	Do
Role of the private sector in mental health programing and financing.	10.6	Do
How to develop programs for the control of mental disorders	11.9	Do
Utilization of mental health data for program evaluation	12.2	Pittsburgh
How to recognize mental disorders	15.8	Berkeley
Mental disorder casefinding role of public health workers	16.1	Pittsburgh
Means of introducing innovation and change in mental health programs.	18.2	North Carolina
Identification and relief of mental hazards	19.5	Berkeley
Principles of comprehensive mental health planning	19.7	North Carolina
Principles of consultation	19.7	Yale
Psychiatric rehabilitation agencies and services	20.1	North Carolina
Psychiatric rehabilitation functions of public health workers	20.3	Berkeley
"Anticipatory guidance" as related to the primary prevention of mental disorders.	20.6	Pittsburgh
Methods for care of patients with mental disorders	20.9	Berkeley
Coordinating interagency relationships in mental health	21.4	North Carolina
Sources of epidemiological data on mental disorders	21.6	Minnesota
Survey of personality theories	21.9	UCLA
State, local, and Federal mechanisms for financing mental health programs.	22.1	North Carolina
Comprehensive community mental health centers	22.5	Do
Means of improving the mental health functioning of community care givers.	22.8	Pittsburgh
Organization and delivery of mental health services	24.0	North Carolina
Adjustment programs of ex-patients and their families	25.7	Berkeley
Principles of interviewing	26.2	Yale
Roles and functions of mental health specialists	26.6	North Carolina
Referral to special mental health facilities	27.5	Do
Infancy and the preschool period	28.4	UCLA
Varieties of mental disorders	28.7	Berkeley
Types of mental health treatment agencies and services	29.9	North Carolina
Mental health functions of basic community services in health, education, and welfare.	30.3	Do
Etiological factors in mental disorders	31.4	Berkeley
Distribution of mental disorders in the general population	32.1	Minnesota
Other preventive mental health intervention techniques	32.2	Pittsburgh
Sensitivity to behavioral and verbal cues	40.0	Do
Role of conscious and unconscious factors	40.3	UCLA
Individual personality dynamics	40.6	Pittsburgh
Role of the family	40.6	Do
Small-group interaction	45.0	Do
Public attitudes toward the mentally ill	45.2	Berkeley
Importance of feelings and emotions	50.0	Pittsburgh
Understanding a client's attitudes, fears, and prejudices	51.1	Do

[1] Total for each school equals 100.0 percent.

As noted from the above list, the lowest percents of respondents to report coverage of any of the 43 mental health topics originated with six of the schools. No such respondents were in the Columbia, Harvard, Hopkins, Michigan, and Tulane groups.

Topics Noted by the Lowest Percents of Respondents From Each School.—Which mental health topics were *least frequently* covered according to respondents from each of the 11 schools? Three of the 17 topics which were not covered in the view of a single majority of respondents from any of the schools fell also among the least frequently noted topics:

Respondents graduated from—	Mental health topics least frequently reported	Percent from school total [1]
Berkeley	Psychiatric registers	8.8
UCLA	Do	10.9
Columbia	Do	18.7
Harvard	Do	18.6
Hopkins	Social breakdown syndrome	21.1
Michigan	Psychiatric registers	5.1
Minnesota	Do	5.4
North Carolina	Do	4.8
Pittsburgh	Social breakdown syndrome	9.4
Tulane	Psychiatric registers	16.0
Yale	Do	16.4
	Budget planning for mental health programs	16.4

[1] Total for each school equals 100.0 percent.

IN SUMMARY, in the *basic area,* the most frequently indicated covered topic was importance of feelings and emotions (61.7 percent). The replies indicating its coverage ranged from 50.0 percent in the Pittsburgh group to 74.6 percent in the Yale group. The smallest group of respondents noting coverage of a mental health topic in the *basic area* was for survey of personality theories (32.3 percent). The lowest percent of respondents to indicate coverage of this topic was 21.9 percent in the UCLA group, and the highest, 50.0 percent of the Yale group.

In the *general area,* the topic public attitudes toward the mentally ill (54.4 percent) was most frequently indicated as covered. The lowest percent to note this topic was 45.2 percent in the Berkeley group; the highest, 77.9 percent in the Yale group. The smallest group of respondents noting coverage of a mental health topic in the *general area* was for psychiatric registers (10.4 percent). The replies noting coverage of this topic ranged from 4.8 percent in the North Carolina group to 24.4 percent in the Hopkins group.

In the *specialized area,* the most frequently indicated mental health topic covered was types of mental health treatment agencies and services (43.2 percent). The responses to this topic ranged from 29.9 percent in the North Carolina group to 56.0 percent in the Columbia group. Social breakdown syndrome (16.2 percent) was the topic least noted as covered in the *specialized area.* In the Pittsburgh group was the lowest percent (9.4 percent) who indicated its coverage; the highest percent was 30.0 percent in the Columbia group.

The highest percent of respondents who indicated coverage of a mental health topic was 77.9 percent in the Yale group for public attitudes toward the mentally ill. The lowest percent of respondents to report coverage of a topic was 4.8 percent in the North Carolina group for psychiatric registers.

Six of the 43 mental health topics were covered according to the highest percents of respondents from each of the schools: Understanding a client's attitudes, fears, and prejudices, public attitudes toward the mentally ill, small group interaction, sources of epidemiological data on mental disorders, role of the family, and importance of feelings and emotions. Three of the 43 topics were covered according to the lowest percents of respondents from each of the schools: Psychiatric registers, social breakdown syndrome, and budget planning for mental health programs.

QUALITY OF PRESENTATION [2]

A large number of the respondents who indicated coverage of mental health topics considered them to have been *well-presented.* The median percent for *well-presented* mental health topics was 70.0 percent; this median percent was similar to that for *well-presented* coverage of the mental health aspects of the 31 public health topics (70.7 percent). The median percent for those who indicated *well-presented* for the nine *basic area* topics was 75.7 percent, for the 26 *general area* topics 69.3 percent, and for the eight *specialized area* topics 68.0 percent. The median percent for mental health topics *not well-presented* was 13.9 percent, or slightly higher than for those public health topics judged as *not well-presented* (12.6 percent). The median percents for *do not recall* were 13.7 percent and for *nonresponse* 1.9 percent (see table 9:3).

Of the 43 mental health topics, the highest percents of respondents considered both small-group interaction (80.0 percent) and understanding a client's attitudes, fears, and prejudices (80.3 percent) *well-presented;* these topics were within the *basic area.* In the *general area,* the highest percents of respondents rated principles of interviewing (79.0 percent) and principles of consultation (78.6 percent) *well-presented;* in the *specialized area,* social breakdown syndrome which was covered only in accordance to 16.2 percent of all respondents was *well-presented* in the view of the highest percent of respondents (71.3 percent).

The topic in the *basic area* considered to be *well-presented* by the lowest percent of respondents was survey of personality theories reported by 69.3 percent, a substantial group of those who indicated its coverage. The mental health topic in the *general area* which the lowest percent of re-

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[2] Responses based only on positive responses to coverage, not on total number of respondents.

Table 9:3.—*Quality of presentation of mental health topics covered in school of public health training*

[Medians and range of percents of respondents]

	Number of items	Well-presented, percent of respondents		Not well presented, percent of respondents		Do not recall, percent of respondents		Nonresponses, percent of respondents	
		Median	Range	Median	Range	Median	Range	Median	Range
Mental health topics	43	70.0	80.3–63.7	13.9	19.3– 9.4	13.7	19.4– 5.9	1.9	3.0–1.0
Basic area	9	75.7	80.3–69.3	12.8	18.8–10.1	8.8	10.3– 5.9	2.0	3.0–1.3
Personality theory	4	74.2	77.4–69.3	14.6	18.8–12.7	9.4	10.3– 8.6	1.5	2.1–1.3
Socialization	[1] 2	....	75.7–73.9	....	13.9–12.8	....	10.3– 9.5	....	2.0–1.9
Interpersonal relations	[1] 3	....	80.3–76.9	....	12.2–10.1	....	8.2– 5.9	....	3.0–2.4
General area	26	69.3	79.0–63.7	14.5	19.3– 9.4	13.8	19.3– 6.2	2.1	2.9–1.4
Techniques	7	72.2	79.0–70.1	13.3	15.1–12.9	12.0	13.7– 6.2	1.9	2.9–1.7
Administration	13	66.2	70.1–63.7	15.3	19.3–12.3	16.5	19.3–12.6	2.1	2.7–1.4
Information	6	70.5	74.3–68.5	13.2	16.4– 9.4	13.8	15.6–12.5	2.2	2.5–1.6
Specialized area	8	68.0	71.3–65.9	13.4	16.4–11.5	16.6	19.4–13.9	1.6	2.0–1.0
Secondary prevention	5	68.1	71.3–65.9	14.3	16.4–11.5	15.4	19.4–13.9	1.6	2.0–1.0
Tertiary prevention	[1] 3	....	69.5–66.9	....	13.5–11.9	....	18.2–17.0	....	1.8–1.3

[1] Medians are reported only for sections containing 4 or more topics.

spondents considered *well-presented* was organization and delivery of mental health services; yet, this topic was noted by 63.7 percent of those who indicated its coverage. In the *specialized area,* the topic considered by the lowest percent as *well-presented* was types of mental health treatment agencies and services noted also by a relatively large group, 65.9 percent of those who reported its coverage.

The twofold approach in examining the responses to quality of presentation of the mental health topics was identical to that employed in the previous chapter on the mental health aspects of the public health topics: (1) Which topics were *well-presented* according to the *highest/lowest percents of respondents with the schools attended identified?* (2) Which topics were considered *well-presented* by the *highest/lowest percents of respondents from each of the eleven schools individually?*

Mental Health Topics Most Frequently Considered Well-Presented in Schools of Public Health

Topics Noted by the Highest Percents of Respondents and School Attended.—The highest percents of respondents who considered that the 43 mental health topics were *well-presented* are reported below in rank order with the school attended identified:

Mental health topic	Percent from school total in rank order [1]	Respondents graduated from—
Importance of feelings and emotions	90.7	Tulane
Principles of interviewing	88.1	Minnesota
Public attitudes toward the mentally ill	87.9	Tulane
Small-group interaction	87.8	Columbia
Understanding a client's attitudes, fears, and prejudices	85.7	Minnesota
Sensitivity to behavioral and verbal cues	85.7	Do
Means of introducing innovation and change in mental health programs.	85.5	Harvard
Role of conscious and unconscious factors	84.7	Minnesota
Principles of consultation	84.5	Harvard
Individual personality dynamics	84.4	Minnesota
Infancy and the preschool period	83.9	Do
Distribution of mental disorders in the general population	83.3	Tulane
Types of mental health treatment agencies and services	82.7	Do
Role of the family	82.0	Do
Identification and relief of mental hazards	81.9	Columbia
How to recognize mental disorders	81.7	Harvard
Adjustment problems of ex-patients and their families	81.4	Yale
"Anticipatory guidance" as related to the primary prevention of mental disorders.	80.9	Minnesota
Varieties of mental disorders	80.7	Tulane
Mental health medico-legal problems	80.5	Columbia
Social breakdown syndrome	80.0	Harvard
Budget planning for mental health programs	80.0	Columbia
Mental health casefinding role of public health workers	79.7	Do
Psychiatric rehabilitation agencies and services	79.3	Yale
Comprehensive community mental health centers	79.2	Do
Survey of personality theories	78.1	Minnesota
Means of improving the mental health functioning of community care givers.	78.1	Hopkins
Roles and functions of mental health specialists	78.0	Minnesota
Principles of comprehensive mental health planning	77.9	Columbia
Etiological factors in mental disorders	77.6	Do
How to develop programs for the control of mental disorders	77.5	Do
Coordinating interagency relationships in mental health	77.4	Do
Methods for care of patients with mental disorders	77.4	Do
Other preventive mental health intervention techniques	77.0	Hopkins
State, local, and Federal mechanisms for financing mental health programs.	76.4	Columbia
Sources of epidemiological data on mental disorders	76.4	Hopkins
Referral to special mental health facilities	76.3	Columbia
Utilization of mental health data for program evaluation	76.1	Minnesota
Mental health functions of basic community services in health, education, and welfare.	75.9	Columbia
Organization and delivery of mental health services	73.7	Do
Psychiatric rehabilitation functions of public health workers	72.5	Do
Role of the private sector in mental health programing and financing.	71.4	Minnesota
Psychiatric registers	(The total number of respondents reporting coverage of this topic in any school was less than 50.)	

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[1] Total for each school based on responses to covered topics equals 100.0 percent.

As may be observed from the above list, the highest percents of respondents to note that the 43 covered mental health topics were *well-presented* originated with six of the schools. No such respondents were in the Berkeley, UCLA, Michigan, North Carolina, or Pittsburgh groups. Respondents from Columbia noted the largest number of mental health topics considered *well-presented.*

Topics Noted by the Highest Percents of Respondents From Each School.—Following is a list of the highest percents of respondents from each school to indicate that a mental health topic covered in class was *well-presented:*

Respondents graduated from—	Mental health topic	Percent from school total[1]
Berkeley	Principles of consultation	79.2
UCLA	Role of conscious and unconscious factors	82.7
Columbia	Small-group interaction	87.8
Harvard	Means of introducing innovation and change in mental health programs.	85.5
Hopkins	Infancy and the preschool period	82.4
Michigan	Understanding a client's attitudes, fears, and prejudices	83.1
Minnesota	Principles of interviewing	88.1
	Importance of feelings and emotions	87.5
North Carolina	Principles of consultation	83.9
Pittsburgh	Principles of interviewing	79.4
	Understanding a client's attitudes, fears, and prejudices	79.3
Tulane	Importance of feelings and emotions	90.7
Yale	Understanding a client's attitudes, fears, and prejudices	82.4
	Public attitudes toward the mentally ill	82.1

[1] Total for each school based on responses to covered topics equals 100.0 percent.

Mental Health Topics Least Frequently Considered Well-Presented in Schools of Public Health

Topics Noted by the Lowest Percents of Respondents and School Attended.—The 43 mental health topics judged by the lowest percents of respondents as *well-presented* and the schools that they attended follows:

Mental health topic	Percent from school total in rank order [1]	Respondents graduated from—
Organization and delivery of mental health services	49.5	North Carolina
How to recognize mental disorders	51.9	Berkeley
Psychiatric rehabilitation agencies and services	52.3	Do
Principles of comprehensive mental health planning	53.9	UCLA
Types of mental health treatment agencies and services	54.7	Berkeley
How to develop programs for the control of mental disorders	54.9	UCLA
Distribution of mental disorders in the general population	55.4	Minnesota
Mental health medico-legal problems	55.6	Michigan
Psychiatric rehabilitation functions of public health workers	55.6	UCLA
Utilization of mental health data for program evaluation	56.0	Do
Coordinating interagency relationships in mental health	58.0	Do
Identification and relief of mental hazards	58.1	Michigan
State, local, and Federal mechanisms for financing mental health programs.	58.5	Berkeley
Budget planning for mental health programs	58.8	Do
Mental health functions of basic community services in health, education, and welfare.	58.9	UCLA
Methods for care of patients with mental disorders	59.5	Do
Comprehensive community mental health centers	60.5	Minnesota
Adjustment problems of ex-patients and their families	60.6	Berkeley
Role of the private sector in mental health programing and financing.	61.0	Do
Etiological factors in mental disorders	61.7	North Carolina
Sources of epidemiological data on mental disorders	61.8	Michigan
Survey of personality theories	62.0	Columbia
Means of introducing innovation and change in mental health programs.	62.5	Berkeley
Roles and functions of mental health specialists	62.9	Do
Social breakdown syndrome	63.4	Do
Principles of interviewing	63.8	Hopkins
Other preventive mental health intervention techniques	63.8	Pittsburgh
Varieties of mental disorders	64.0	North Carolina
Mental disorder casefinding role of public health workers	64.0	Berkeley
Means of improving the mental health functioning of community care givers.	64.2	Do
Role of conscious and unconscious factors	64.5	North Carolina
Infancy and the preschool period	65.1	Yale
Individual personality dynamics	66.8	North Carolina
Role of the family	67.7	Berkeley
Referral to special mental health facilities	67.9	Michigan and Yale
Public attitudes toward the mentally ill	68.5	Berkeley and Pittsburgh
Principles of consultation	69.2	Hopkins
Sensitivity to behavioral and verbal cues	70.3	Yale
"Anticipatory guidance" as related to the primary prevention of mental disorders.	70.5	Berkeley
Importance of feelings and emotions	72.0	North Carolina
Small-group interaction	72.4	Yale
Understanding a client's attitudes, fears, and prejudices	75.2	Berkeley
Psychiatric registers	(The total number of respondents reporting coverage of this topic in any school was less than 50.)	

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[1] Total for each school based on responses to covered topics equals 100.0 percent.

As noted from the above list, the lowest percents of respondents to indicate that the 43 covered mental health topics were *well-presented* originated with nine of the schools. No such respondents were in the Harvard or Tulane groups.

Topics Noted by the Lowest Percents of Respondents From Each School.—The lowest percents of respondents from each school to indicate that the mental health topics covered in class had been *well-presented* were as follows:

Respondents graduated from—	Mental health topic	Percent from school total [1]
Berkeley	Psychiatric rehabilitation agencies and services	52.3
	How to recognize mental disorders	51.9
UCLA	Principles of comprehensive mental health planning	53.9
Columbia	Survey of personality theories	62.0
Harvard	How to develop programs for the control of mental disorders.	59.4
Hopkins	Principles of comprehensive mental health planning	62.7
Michigan	Mental health medico-legal problems	55.6
Minnesota	Distribution of mental disorders in the general population.	55.4
North Carolina	Organization and delivery of mental health services	49.5
Pittsburgh	Mental health functions of basic community services in health, education, and welfare.	61.3
Tulane	Etiological factors in mental disorders	77.2
Yale	Survey of personality theories	62.3
	Organization and delivery of mental health services	61.8

[1] Total for each school based on responses to covered topics equals 100.0 percent.

In summary, the covered mental health topics like the covered mental health aspects of public health topics were generally considered to be *well-presented*. The highest percent of respondents indicating that a mental health topic was *well-presented* was understanding a client's attitudes, fears, and prejudices (80.3 percent). Respondents so appraising this topic ranged from 75.2 percent in the Berkeley group to 85.7 percent in the Minnesota group. Next highest was the topic small-group interaction (80.0 percent). This distribution ranged from 72.4 percent in the Yale group to 87.8 percent in the Columbia group. The lowest percent of respondents indicating that a mental health topic was *well-presented* was 63.7 percent for organization and delivery of mental health services. The frequency of this reply ranged from 49.5 percent in the North Carolina group to 73.7 percent in the Columbia group.

The highest percent of respondents who considered a mental health topic *well-presented* was 90.7 percent in the Tulane group who so rated the presentation on importance of feelings and emotions. The lowest percent of respondents considering a covered topic *well-presented* was 49.5 percent in the North Carolina group who made that indication for organization and delivery of mental health services.

The highest percents of respondents from each of the schools indicated as *well-presented* the following mental health topics: Importance of feelings and emotions, role of conscious and unconscious factors, infancy and the preschool period, small-group interaction, understanding a client's attitudes, fears, and prejudices, means of introducing innovation and change in mental health programs, principles of interviewing, principles of consultation, and public attitudes toward the mentally ill. The lowest percents of respondents from each of the schools indicated that the following mental health topics were *well-presented:* Principles of comprehensive mental health planning, how to develop programs for the control of mental disorders, mental health medico-legal problems, distribution of mental disorders in the general population, organization and delivery of mental health services, mental health functions of basic community services in health, education, and welfare, etiological factors in mental disorders, how to recognize mental disorders, survey of personality theories, and psychiatric rehabilitation agencies and services.

USEFULNESS IN WORK[3]

Overall, the mental health topics covered were considered *of great use* by relatively small numbers of respondents as indicated by a median response of 20.8 percent. A much larger group rated these topics as *of moderate use* as indicated by the median response of 34.0 percent. A somewhat smaller group rated the topics *of little use* to their work as suggested by the median of 32.6 percent. This median was lower than the median response *of little use* for mental health aspects of public health topics (36.8 percent). As indicated by the medians also, more than twice as many respondents considered topics in the *basic area* (46.5 percent) to be *of great use* than topics in the *general area* (19.1 percent) or in the *specialized area* (20.2 percent). The median distribution of responses suggests that the coverage of mental health topics in the *basic area* was more likely to be considered *of great use,* topics in the *general area* to be *of little use,* and topics in the *specialized area* in the directions *of moderate use* (35.9 percent) and *of little use* (35.2 percent) (see table 9:4).

The twofold approach in examining the responses on usefulness in work of the mental health topics is identical to the procedure employed in the previous chapter on usefulness in work of the mental health aspects of the public health topics: (1) To what extent did a plurality or majority of respondents indicate that a given topic was *of great, of moderate,* or *of little use?* (2) Which topics were considered *of great, of moderate,* or *of little use* by respondents from individual schools?

Of Great Use

Ten of the topics covered were considered by a plurality or majority of respondents to be *of great use* rather than of *moderate* or *of little use:*

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[3] Responses based only on positive responses to coverage, not on total number of respondents.

TABLE 9:4.—*Usefulness in work of mental health topics covered in school of public health training*

[Medians and range of percents of respondents]

	Number of items	Of great use, percent of respondents		Of moderate use, percent of respondents		Of little use, percent of respondents		Nonresponses, percent of respondents	
		Median	Range	Median	Range	Median	Range	Median	Range
Mental health topics	43	20.8	54.0–14.7	34.0	41.3–23.3	32.6	50.8–10.3	8.9	11.1–4.7
Basic area	9	46.5	54.0–30.9	35.2	36.3–30.1	13.3	28.1–10.3	5.7	7.4–4.7
Personality theory	4	43.6	47.0–34.7	35.8	36.3–35.4	15.1	23.6–12.9	5.2	6.1–4.7
Socialization	[1] 2	....	34.9–30.9	....	35.2–33.6	....	28.1–22.8	....	7.4–7.0
Interpersonal relations	[1] 3	....	54.0–49.8	....	31.7–30.1	....	12.8–10.3	....	6.6–5.2
General area	26	19.1	49.5–14.7	32.0	41.3–23.3	34.8	50.8–15.0	9.5	10.9–5.5
Techniques	7	34.5	49.5–25.2	31.6	32.9–29.5	24.7	33.2–15.0	7.8	9.2–5.5
Administration	13	18.4	20.9–14.7	31.5	41.3–23.3	39.6	50.8–29.7	9.5	10.8–7.5
Information	6	18.3	21.9–15.4	37.0	38.9–25.3	34.3	49.7–31.5	9.7	10.9–9.3
Specialized area	8	20.2	26.3–15.4	35.9	40.1–34.0	35.2	36.8–28.0	9.2	11.1–7.7
Secondary prevention	5	21.7	26.3–15.4	37.3	40.1–34.0	31.9	36.3–28.0	8.8	11.1–7.7
Tertiary prevention	[1] 3	....	19.6–18.2	....	36.2–35.1	....	36.8–35.1	....	9.9–9.5

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[1] Medians are reported only for sections containing 4 or more topics.

Understanding a client's attitudes, fears, and prejudices (54.0 percent), importance of feelings and emotions (47.0 percent), individual personality dynamics (46.5 percent), role of conscious and unconscious factors (40.7 percent), sensitivity to behavioral and verbal cues (49.8 percent), small-group interaction (50.2 percent), anticipatory guidance (39.6 percent), principles of consultation (49.5 percent), principles of interviewing (48.9 percent), and other preventive mental health intervention techniques; e.g., community organization, mental health education, parent education, and crisis intervention (34.5 percent).

The mental health topics considered by the lowest percents of respondents as *of great use* to their work were as follows: Distribution of mental disorders in the general population (14.7 percent), role of the private sector in mental health programing and financing (14.7 percent), State, local, and Federal mechanisms for financing mental health programs (14.8 percent), psychiatric registers (15.4 percent), and types of mental health treatment agencies and services (15.4 percent).

The highest percents of respondents from each school to consider that the mental health topics covered were *of great use* were as follows:

Respondents graduated from—	Mental health topic	Percent from school total[1]
Berkeley	Principles of consultation	59.4
UCLA	Sensitivity to behavioral and verbal cues	51.6
Columbia	Small-group interaction	55.3
Harvard	Principles of consultation	40.8
Hopkins	Understanding a client's attitudes, fears, and prejudices	51.1
Michigan	Do	60.4
Minnesota	Importance of feelings and emotions	65.9
North Carolina	Understanding a client's attitudes, fears, and prejudices	51.5
	Principles of consultation	52.2
Pittsburgh	Principles of interviewing	47.6
Tulane	Understanding a client's attitudes, fears, and prejudices	58.9
Yale	Do	55.4

[1] Total from each school based on responses to covered topics equals 100.0 percent.

The lowest percents of respondents from each school to consider that a topic was *of great* use were as follows:

Respondents graduated from—	Mental health topic	Percent from school total[1]
Berkeley	State, local, and Federal mechanisms for financing mental health programs.	14.5
	Role of the private sector in mental health programing and financing.	15.0
UCLA	State, local, and Federal mechanisms for financing mental health programs.	9.6
Columbia	Adjustment problems of ex-patients and their families	15.9
Harvard	Psychiatric rehabilitation functions of public health workers.	8.3
Hopkins	Distribution of mental disorders in the general population.	12.0
	How to develop programs for the control of mental disorders.	12.1
Michigan	Role of the private sector in mental health programing and financing.	12.0
Minnesota	How to develop programs for the control of mental disorders.	6.0
North Carolina	Types of mental health treatment agencies and services	10.9
	State, local, and Federal mechanisms for financing mental health programs.	10.8
	Varieties of mental disorders	10.7
Pittsburgh	Do	9.0
Tulane	Types of mental health treatment agencies and services	9.6
Yale	Varieties of mental disorders	10.4

[1] Total from each school based on responses to covered topics equals 100.0 percent.

To review, the six topics which the highest percents of respondents from each school considered *of great use* consisted of four in the *basic area;* i.e., sensitivity to behavioral and verbal cues, small-group interaction, understanding a client's attitudes, fears, and prejudices, and the importance of feelings and emotions, and two topics in the *general area;* i.e., principles of consultation and principles of interviewing. None of the *specialized area* topics covered were considered *of great use* by the highest percents of respondents from any school. The highest percent of respondents from any school to consider a topic *of great use* was 65.9 percent from Minnesota in noting the importance of feelings and emotions.

Of the eight topics described by the lowest percents of respondents from each school as *of great use,* five were in the *general area;* i.e., role of the private sector in mental health programing and financing, State, local, and Federal mechanisms for financing mental health programs, distribution of mental disorders in the general population, how to develop programs for the control of mental disorders, and varieties of mental disorders. The remaining three topics—adjustment problems of ex-patients and their families, types of mental health treatment agencies and services, and psychiatric rehabilitation functions of public health workers—were within the *specialized area.* Not one of the *basic area* topics covered was considered by the lowest percents of respondents from any school to be *of great use* to their work.

Of Moderate Use

Eighteen of the topics were considered by a plurality of respondents to be *of moderate* rather than *of great* or *of little use:* Identification and relief of mental hazards (41.3 percent), survey of personality theories (36.1 percent), infancy and the preschool period (33.6 percent), means of improving the mental health functioning of community care givers (32.9 percent), referral to special mental health facilities (32.3 percent), coordinating interagency relationships in mental health (36.5 percent), mental health functions of basic community services in health, education, and welfare (37.4 percent), mental health medico-legal problems (37.9 percent), etiological factors in mental disorders (38.9 percent), public attitudes toward the mentally ill (37.3 percent), roles and functions of mental health specialists (36.6 percent), varieties of mental disorders (38.1 percent), how to recognize mental disorders (38.1 percent), mental disorder casefinding role of public health workers (34.0 percent), social breakdown syndrome (40.1 percent), types of mental health treatment agencies and services (37.3 percent), adjustment problems of ex-patients and their families (36.2 percent), and psychiatric rehabilitation functions of public health workers (35.5 percent).

The role of the family was considered by the highest percents of respondents either as *of moderate use* (35.2 percent) or *of great use* (34.9 percent). Budget planning for mental health programs (23.3 percent) was considered as *of moderate use* by the lowest percent of respondents.

The highest percents of respondents from each school to consider that a covered mental health topic was *of moderate use* were as follows:

Respondents graduated from—	Mental health topic	Percent from school total [1]
Berkeley	Adjustment problems of ex-patients and their families	42.4
	Identification and relief of mental hazards	42.0
UCLA	Etiological factors in mental disorders	43.2
	Mental disorder casefinding role of public health workers.	42.9
Columbia	Identification and relief of mental hazards	46.8
Harvard	Social breakdown syndrome	54.0
Hopkins	Psychiatric rehabilitation functions of public health workers.	44.6
Michigan	Social breakdown syndrome	49.1
Minnesota	Identification and relief of mental hazards	51.2
North Carolina	Mental health functions of basic community services in health, education, and welfare.	43.6
	Coordinating interagency relationships in mental health.	44.4
Pittsburgh	Etiological factors in mental disorders	50.0
Tulane	Types of mental health treatment agencies and services	55.8
Yale	Adjustment problems of ex-patients and their families	44.1

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[1] Total from each school based on responses to covered topics equals 100.0 percent.

The lowest percents of respondents from each school considered that the following topics were *of moderate use:*

Respondents graduated from—	Mental health topic	Percent from school total [1]
Berkeley	Principles of consultation	24.6
UCLA	Understanding a client's attitudes, fears, and prejudices	23.8
Columbia	State, local, and Federal mechanisms for financing mental health programs.	27.3
Harvard	Comprehensive community mental health centers	11.0
Hopkins	Principles of comprehensive mental health planning	18.6
Michigan	Budget planning for mental health programs	21.0
Minnesota	Principles of interviewing	22.6
North Carolina	How to develop programs for the control of mental disorders.	21.8
Pittsburgh	Adjustment problems of ex-patients and their families	20.0
Tulane	Understanding a client's attitudes, fears, and prejudices	25.0
Yale	Other preventive mental health intervention techniques	11.3

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[1] Total from each school based on responses to covered topics equals 100.0 percent.

In other words, the nine topics which the highest percents of respondents from each school considered *of moderate use* consisted of five *specialized area* topics; i.e., adjustment problems of ex-patients and their families, mental disorder casefinding role of public health workers, social breakdown syndrome, psychiatric rehabilitation functions of public health workers, and types of mental health treatment agencies and services, and four topics in the *general area;* i.e., identification and relief of mental hazards, etiological factors in mental disorders, coordinating interagency relationships in mental health, and mental health functions of basic community services in health, education, and welfare. None of the *basic area* topics covered were considered *of moderate use* by the highest percents of respondents from any school. The highest percent of respondents from any school to consider a topic *of moderate use* was 55.8 percent from Tulane who so designated types of mental health treatment agencies and services.

Of the 10 topics described by the lowest percents of respondents from each school as *of moderate use,* eight were in the *general area;* i.e., principles of consultation, State, local, and Federal mechanisms for financing mental health programs, comprehensive community mental health centers, principles of comprehensive mental health planning, budget planning for mental health programs, principles of interviewing, how to develop programs for the control of mental disorders, and other preventive mental health intervention techniques. The remaining two topics considered by the lowest percents of respondents to be *of moderate use* were: Understanding a client's attitudes, fears, and prejudices in the *basic area,* and adjustment problems of ex-patients and their families in the *specialized area.*

Of Little Use

Of the 43 topics, 14 were considered by a plurality or majority of respondents to be *of little use* rather than *of great* or *of moderate use:* Budget planning for mental health programs (50.8 percent), means of introducing innovation and change in mental health programs (33.2 percent), comprehensive community mental health centers (44.5 percent), distribution of mental disorders in the general population (38.8 percent), how to develop programs for the control of mental disorders (44.1 percent), organization and delivery of mental health services (39.6 percent), principles of comprehensive mental health planning (39.1 percent), role of the private sector in mental health programing and financing (45.4 percent), State, local, and Federal mechanisms for financing mental health programs (47.2 percent), utilization of mental health data for program evaluation (40.2 percent), psychiatric registers (49.7 percent), sources of epidemiological data on mental disorders (40.9 percent), methods for care of patients with mental disorders (35.6 percent), and psychiatric rehabilitation agencies and services (36.8 percent).

Understanding a client's attitudes, fears, and prejudices (10.3 percent) was considered *of little use* by the lowest percent of respondents.

The mental health topics considered by the highest percents of respondents from each school to be *of little use* were as follows:

Respondents graduated from—	Mental health topic	Percent from school total[1]
Berkeley	Role of the private sector in mental health programing and financing.	43.0
UCLA	State, local, and Federal mechanisms for financing mental health programs.	52.9
Columbia	Psychiatric rehabilitation agencies and services	39.6
Harvard	Budget planning for mental health programs	67.6
Hopkins	State, local, and Federal mechanisms for financing mental health programs.	57.7
Michigan	Budget planning for mental health programs	53.2
Minnesota	How to develop programs for the control of mental disorder.	56.0
North Carolina	State, local, and Federal mechanisms for financing mental health programs.	53.9
Pittsburgh	Adjustment problems of ex-patients and their families	50.0
Tulane	Etiological factors in mental disorders	36.8
Yale	Distribution of mental disorders in the general population.	49.4

[1] Total from each school based on responses to covered topics equals 100.0 percent.

The topics considered by the lowest percents of respondents from each school to be *of little use* were as follows:

Respondents graduated from—	Mental health topic	Percent from school total [1]
Berkeley	Individual personality dynamics	9.5
	Importance of feelings and emotions	9.4
UCLA	Sensitivity to behavioral and verbal cues	11.6
Columbia	Understanding a client's attitudes, fears, and prejudices	9.9
Harvard	Individual personality dynamics	18.2
	Importance of feelings and emotions	17.7
Hopkins	Understanding a client's attitudes, fears, and prejudices	9.6
Michigan	Do	6.2
Minnesota	Do	6.6
North Carolina	Principles of consultation	9.1
Pittsburgh	Understanding a client's attitudes, fears, and prejudices	12.0
Tulane	Importance of feelings and emotions	13.0
	Understanding a client's attitudes, fears, and prejudices	12.5
Yale	Do	12.2
	Small-group interaction	11.8

[1] Total from each school based on responses to covered topics equals 100.0 percent.

In other words, two of the eight *specialized area* topics appeared among those which the highest percents of respondents from each school considered to be *of little use* in their work: Psychiatric rehabilitation agencies and services, and adjustment problems of ex-patients and their families. The remaining six topics, all in the *general area,* which the highest percents of respondents from each school considered *of little use* included: Role of the private sector in mental health programing and financing, State, local, and Federal mechanisms for financing mental health programs, budget planning for mental health programs, how to develop programs for the control of mental disorders, etiological factors in mental disorders, and distribution of mental disorders in the general population. None of the *basic area* topics appeared among those which the highest percents of respondents from each school considered to be *of little use*. The highest percent of respondents from any school to consider a topic *of little use* was 67.6 percent from Harvard who did so in regard to budget planning for mental health programs.

Of the six topics described by the lowest percents of respondents from each school as *of little use,* five were in the *basic area;* i.e., importance of feelings and emotions, individual personality dynamics, sensitivity to behavioral and verbal cues, understanding a client's attitudes, fears, and prejudices, and small-group interaction. The remaining topic, principles of consultation, was within the *general area.* None of the *specialized area* topics covered was considered *of little use* by the lowest percents of respondents from each school.

OVERVIEW

One-half or more respondents from one or more of the schools indicated that 26 of the 43 mental health topics listed were covered during their training in a school of public health. A majority of respondents from each of the 11 schools indicated coverage of at least one of the mental health topics listed. The number of mental health topics covered by schools according to the majorities of respondents were: Yale 22, Columbia 20, Tulane 14, UCLA 12, Minnesota 10, Harvard eight, North Carolina eight, Berkeley seven, Hopkins six, Michigan five, and Pittsburgh two. Majorities of respondents from each of the schools noted that both the importance of feelings and emotions and understanding a client's attitudes, fears, and prejudices had been covered. The highest percents of respondents from each school indicated that the following mental health topics were covered: Understanding a client's attitudes, fears, and prejudices, public attitudes toward the mentally ill, small-group interaction, sources of epidemiological data on mental disorders, role of the family, and importance of feelings and emotions.

Generally, coverage of mental health topics in the *basic area* was noted by more respondents than for topics in the *general area;* least noted were topics in the *specialized area.*

As with the mental health aspects of public health topics, in general, the mental health topics were considered *well-presented* by roughly two-thirds of those who reported their coverage. The topics considered *well-presented* by the highest percents of respondents were small-group interaction and understanding a client's attitudes, fears, and prejudices, while the lowest percents indicated organization and delivery of mental health services to have been *well-presented.*

Of those who indicated coverage, the highest percents of respondents from each school considered the following topics *well-presented*: Importance of feelings and emotions, principles of interviewing, small-group interaction, means of introducing innovation and change in mental health programs, principles of consultation, role of conscious and unconscious factors, infancy and the preschool period, understanding a client's attitudes, fears, and prejudices, and public attitudes toward the mentally ill. The lowest percents of respondents from each school indicated the following topics as *well-presented*: Principles of comprehensive mental health planning, how to develop programs for the control of mental disorders, mental health medico-legal problems, distribution of mental disorders in the general population, organization and delivery of mental health services, mental health functions of basic community services in health, education, and welfare, etiological factors in mental disorders, how to recognize mental disorders, survey of personality theories, and psychiatric rehabilitation agencies and services.

Mental health topics covered were considered *of great use* by relatively few respondents. Furthermore, respondents were more likely to consider more often topics in the *basic area* as *of great use* than topics either in the *general area* or in the *specialized area.* A total of 10 of the mental health topics were considered by a majority or by a plurality of respondents to be *of great use*, 18 *of moderate use*, and 14 *of little use.*

The mental health topic which the highest percent of respondents considered to be *of great use* was understanding a client's attitudes, fears, and prejudices. Five topics were deemed *of great use* by the lowest percents of respondents: Distribution of mental disorders in the general population, role of the private sector in mental health programing and financing, State, local, and Federal mechanisms for financing mental health programs, psychiatric registers, and types of mental health treatment agencies and services

The highest percent of respondents from any school to consider a topic covered as *of great use* was 65.9 percent from Minnesota with respect to the importance of feelings and emotions. The highest percent of respondents from any one school to indicate that a topic was *of moderate use* was 55.8 percent from Tulane who noted types of mental health treatment agencies and services. The highest percent of respondents from any one school to indicate a topic *of little use* was 67.6 percent from Harvard for the topic budget planning for mental health programs.

PART IV

MENTAL HEALTH IN PUBLIC HEALTH PRACTICE

RELATIONSHIPS OF MENTAL HEALTH TO PUBLIC HEALTH TRAINING AND PRACTICE

CHAPTER 10

INTEREST IN MENTAL HEALTH PROMPTED BY TRAINING IN A SCHOOL OF PUBLIC HEALTH

As indicated earlier, over two-thirds of the respondents had not had any experience in mental health work prior to the time they registered in a school of public health. Furthermore, slightly more than two-thirds of those who had no experience in mental health work indicated that they felt no need for training in this field. Almost two-thirds of all respondents, however, were exposed to contacts with mental health professionals on the faculty during their public health training, although slightly less than two-fifths took one or more courses listed as mental health in the catalog of the school. To what extent do respondents credit training experiences in a school of public health—through course work, interactions with faculty, or discussion in different contexts—as having prompted their own interest in mental health? This chapter explores how public health workers perceive the level of interest in mental health which was prompted in them by their public health training, the importance of mental health training to public health practice, and the usefulness of their total public health training to their present work functions.

According to 1,145 or 36.8 percent of the respondents their public health training prompted *little interest* in mental health, to 1,119 or 35.9 percent *moderate interest*, and to another 515 or 16.5 percent *high interest*. A total of 252 or 8.1 percent held *no opinion* on this matter; 84 or 2.7 percent did not answer.

Moderate interest was more frequently indicated among UCLA, Columbia, Tulane, and Yale graduates, and *little interest* was more frequently indicated among Berkeley, Harvard, and Pittsburgh graduates. Among graduates from Hopkins, Michigan, Minnesota, and North Carolina almost as many or as many held the opinions that their schools had prompted in them either *moderate* or *little interest* in mental health.

Although *high interest* in mental health was prompted by their school of public health training for 26.0 percent of the Minnesota group, 12.8 percent in the Pittsburgh group and 13.1 percent in the Berkeley group reported similarly. Among Columbia graduates 40.1 percent and among Yale graduates 40.2 percent indicated that *moderate interest* in mental health was prompted by their public health training, while among Pittsburgh graduates 30.0 percent also indicated the same reply. *Little interest* in mental health was prompted for 43.4 percent of Harvard and for 28.9 percent of UCLA and 29.5 percent of Yale graduates.

(a.) Age—The reported level of interest in mental health prompted by public health training appears to be partially associated with age, particularly among the youngest and the oldest respondents. Within the 25-year-old-and-under age group, only 8.3 percent indicated that *high interest* in mental health was prompted by their school of public health training while 41.7 percent indicated that *little interest* was prompted. Among those between 51 and 55 years old 24.6 percent, and among those in the 56-year-old-and-over age group 25.7 percent indicated that *high interest* in mental health was prompted by their public health training. On the other hand, 27.5 percent in the 51-to 55-year-old group and 25.7 percent in the 56-year-old age group and over indicated that *little interest* in mental health was prompted by their public health training.

(b.) Sex—There were differences between the sexes regarding the level of mental health interest prompted by school of public health training both for *high interest* and *little interest*. A higher percent of women (26.3 percent) than of men (11.8 percent) noted that *high interest* was prompted; nonetheless, equal size percents among both men (35.9 percent) and women (36.0 percent) noted *moderate interest*. Among men was a higher percent (40.8 percent) than among women (28.3 percent) noting *little interest*.

(c.) Mental health work experience prior to enrollment—Respondents who had experience in mental health work prior to attending a school of public health were quite similar to those without such experience in their judgment that schools of public health prompted *moderate interest* in mental health; 35.4 percent among those with such experience and 36.2 percent among those without mental health experience expressed that view. A much higher percent among those with mental health experience, 26.6 percent, than those without such experience, 12.0 percent, noted that *high interest* in mental health was prompted by their school of public health training. On the other hand, 40.5 percent of those without mental health experience and 28.7 percent of those with such experience considered that *little interest* in mental health had been prompted.

(d.) Felt need for mental health training—Among those respondents with no prior mental health experience who felt a need for mental health training before attending a school of public health 20.1 percent reported that *high interest* in mental health was prompted; 8.3 percent of those with no prior mental health experience who did not feel a need for mental health training indicated *high interest*. On the other hand, 46.7 percent of respondents with no prior mental health experience who did not feel a need for mental health training reported that *little interest* was prompted, while 26.7 percent of those with no prior mental health experience who did feel a need for mental health training noted *little interest*.

(e.) Primary professional discipline—Among nurses was the highest percent (39.8 percent) reporting that *high interest* in mental health was prompted by their school of public health training.

(f.) Major program pursued—The only group in which a majority of the respondents indicated that training in a school of public health prompted *high interest* in mental health was among Mental Health majors (56.6 percent). The second highest percent of respondents, by major program, who reported *high interest* was among the Public Health Nursing majors (42.4 percent).

(g.) Number of mental health courses taken—Among a majority of the respondents who took three or more mental health courses, the view was held that training in a school of public health prompted *high interest* in mental health. In fact, the greater the number of mental health courses taken, the more likely that respondents would report that *high interest* in mental health was prompted; 53.2 percent of those taking three or more mental health courses noted *high interest*, while 29.4 percent taking two mental health courses, 17.2 percent taking one mental health course, and 9.5 percent of those taking no mental health courses noted this same level of interest. On the other hand, the fewer the number of mental health courses taken, the more likely for respondents to have reported that *little interest* in mental health was prompted. Among those taking no mental health courses 46.2 percent noted *little interest,* while the same reply was forthcoming from 29.9 percent taking one mental health course, 21.6 percent taking two mental health courses, and 7.7 percent taking three or more mental health courses (see app. H, table 1, p. 294).

IMPORTANCE OF MENTAL HEALTH TRAINING TO PUBLIC HEALTH PRACTICE

Mental health training was considered *very important* for the performance of public health work by 1,083 or 34.8 percent of all respondents, *extremely important* by 992 or 31.8 percent, and *of some importance* by 798 or 25.6 percent. In the opinion of a very small group, 37 or 1.2 percent, such training was *not important at all.* The highest percent of respondents indicating that mental health training was *extremely important* to public health work was 38.1 percent in the Minnesota group and the lowest was 24.4 percent in the Hopkins group. Within both the Hopkins group 41.7 percent and the Columbia group 41.6 percent indicated that mental health training was *very important;* the lowest percent concurring with this position was 27.0 percent in the Minnesota group. The percents of respondents considering that mental health training was only *of some importance* to public health work ranged from 29.8 percent in the Tulane group to 20.2 percent in the Columbia group, and the opinion that it was *not important at all* was 1.7 percent or less among respondents from every school.

In general, the tendency among respondents was to consider mental health training to be either *very important* or *extremely important* to public health performance. An examination of selected characteristics of respondents by their appraisal of the importance of mental health training to public health work follows:

(a.) Age—Generally, older respondents were more likely than younger ones to consider mental health training as *extremely important* to public health work. The percents of respondents favoring this point of view, however, did not consistently continue to increase with age, but declined in the oldest age group; yet, these latter percents were not as low as among younger respondents. Thus, although nearly one-half (49.1 percent) of the respondents in the 51–55 age group held the view that mental health training is *extremely important* to public health work, 39.2 percent in the 56-year-old-and-over group and 38.9 percent among those between 46 and 50 years old also held the same view. By comparison, among the younger age groups, 26.0 percent among those 25 years old and under, 25.0 percent in the 26- to 30-year-old age group, and 27.8 percent among the 31- to 35-year-old age group, also held this view. Thus, among the younger as among the older ones, there was no clear-cut consistent increase or decline in the size of the percents of respondents that held the view that mental health training is *extremely important* to public health work.

The lowest percent of respondents who considered mental health training as *very important*, 31.0 percent, was in the 26- to 30-year-old group; and the highest percent to express this view, 40.5 percent, was in the 56-year-old-and-over group. In the 26- to 30-year-old group was the highest percent of respondents, 33.6 percent, indicating that mental health training was *of some importance* to public health work.

(b.) Sex—Sharper and clearer differences, however, may be observed between men and women regarding the importance of mental health training to public health work. Better than one-half (53.2 percent) of the women considered mental health training as *extremely important* to public health compared to 21.7 percent among the men who held the same opinion. Among men 36.5 percent considered mental health training to be *very important* and among women 30.9 percent also held this view. However, among men 32.2 percent considered such training to be *of some importance*, an opinion which was expressed by only 12.0 percent of the women.

(c.) Mental health work experience prior to enrollment—Among respondents who had done mental health work prior to attending a school of public health, 48.4 percent judged that mental health training was *extremely important* to public health work compared with 24.4 percent of the respondents who had not had such experience. The opinion that mental health training was *very important* to public health performance was nearly the same, roughly, one-third, in both groups of respondents. Mental health training was considered *of some importance*, however, by 30.5 percent among those who had not had mental health experience before entering a school of public health compared to 14.8 percent among those who had had such experience.

(d.) Felt need for mental health training—Respondents without mental health experience before going to a school of public health but who indicated that they felt a need for mental health training differed sharply in their opinions regarding the importance attached to mental health training in public health work from those who did not feel such a need. As many as 40.7 percent of those who indicated that they had felt a need for mental health training noted that mental health training was *extremely important* to public health in comparison to 17.2 percent of those who felt that they did not need such training prior to entering a school of public health. Among those who felt a need for mental health training 17.7 percent and, by contrast, among those who did not feel such a need, 36.2 percent deemed that mental health training was *of some importance* to public health.

(e.) Primary professional discipline—A majority of respondents in two professional groups considered mental health training to be *extremely important* to public health work—nurses (70.0 percent) and health educators (50.6 percent).

(f.) Major program pursued—The highest percents of respondents considering that mental health training was *extremely important* to public health work were among those who majored in Public Health Nursing (74.4 percent), in Mental Health (60.0 percent), and in Health Education (53.3 percent).

(g.) Number of mental health courses taken—An association was also noted between the number of mental health courses taken and the opinion that mental health training is *extremely important* to public health work. Among those who had not taken any mental health courses 23.8 percent considered mental health training as *extremely important,* while among those who had taken one mental health course 38.5 percent held that opinion. A higher percent, 46.8 percent of those who had taken two mental health courses also considered mental health training as *extremely important,* but actually the highest percent holding this opinion, 57.1 percent was among those who had taken three or more mental health courses.

USEFULNESS OF TOTAL PUBLIC HEALTH TRAINING TO PRESENT WORK FUNCTIONS

Over one-half of all respondents, 1,760 or 56.5 percent noted that their public health training was *highly useful* to their present functions; less than one-third, 997 or 32.0 percent deemed it *useful,* 216 or 6.9 percent *of little use,* and 35 or 1.1 percent *of no use at all.* A majority of graduates from all schools except Berkeley and UCLA—from 66.7 percent in the Minnesota group to 51.1 percent in the Tulane group—considered their public health training was *highly useful* to their present functions. A plurality from UCLA (45.8 percent) and from Berkeley (48.0 percent) considered their public health training was *highly useful* to their present functions.

Those reporting that their public health training was *useful* to their present functions ranged from 38.2 percent in the Berkeley group to 23.5 percent in the Minnesota group. The highest percent indicating that their overall public health training was *of little use* to their present functions was 12.8 percent in the Tulane group and the lowest, 3.2 percent in the North Carolina group. None in the Yale group indicated that their public health training was *of no use at all* to present functions but 2.5 percent in the UCLA group so noted.

Thus, generally respondents considered their public health training was *highly useful* or *useful* rather than *of little use* or *no use at all* to their present work functions.

IN SUMMARY, over one-third of all the respondents indicated that schools of public health prompted *little interest* in mental health; another group of nearly the same size noted that the schools had prompted *moderate interest* in mental health. According to one-sixth of the respondents, however, the schools prompted *high interest* in this area. The highest percent of respondents also considered that mental health training was *very important* and the second highest percent considered it *extremely important* to public health work. A majority of all the respondents also rated their public health training as *highly useful* to their present functions.

By selected variables, the views of respondents were briefly that: within the youngest age group, 25 years old and under, was the lowest percent within any age group to consider that schools of public health had prompted in them *high interest* in mental health. Higher percents of respondents between 51 and 55 years old and 56 years old and over gave that same reply. Among men and among women, equal percents considered that schools had prompted in them *moderate interest* in mental health, and similarly the highest percents of those with mental health work experience prior to attending a school of public health and of those without it indicated that the schools prompted *moderate interest* in mental health. Those with no prior experience in mental health but who had not felt a need for mental health training were more likely to note that schools had prompted *little interest* in mental health for them than those who had reported such a need. Among those who had taken one or more mental health courses, the percents of respondents indicating that *high interest* in mental health was prompted increased progressively with the number of mental health courses taken.

Mental health training was also considered to be *extremely important* to public health work by nearly one-half of all the respondents between 51 and 55 years old. Generally, older rather than younger respondents considered mental health training to be *extremely important* or *very important* to public health work, although the percents of respondents holding these views did not increase consistently with age. Also, a much higher percent of the women than of the men considered mental health training to be *extremely important* to public health work. Respondents who had mental health work experience before they entered a school of public health were also more likely to hold the above view than those who had not had such experience. However, those who had not had experience in mental health work but who had indicated that they felt a need for such training

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were more likely to indicate that mental health training was *extremely important* to public health than those who did not report that they felt a need for such training. By primary professional discipline, among nurses and health educators were the highest percents to consider mental health training to be *extremely important* to public health. Among those who had taken one or more mental health courses, the percents of respondents who considered mental health as *extremely important* to public health increased progressively with the number of mental health courses taken.

CHAPTER 11

THE PLACE OF MENTAL HEALTH IN PUBLIC HEALTH

PREVIOUS chapters have noted that there is no consensus on the place of mental health in public health work nor on what kinds of mental health responsibilities or activities can be or ought to be conducted by public health workers. Neither is there general agreement as to the place of public health in mental health work. These issues require clarification both for purposes of training and practice since they are crucial to planning and improving the organization and the delivery of health services. To gage current opinions about these dimensions of public health and mental health work, respondents were asked three interrelated questions. One question was addressed to their views on the acceptance of mental health aspects of public health by public health administrators; the second, to their views on public expectations of mental health knowledge among public health workers; and the third, to their views on whether the public expects public health workers to assume mental health roles. Stated differently, do public health workers see themselves having responsibilities in mental health as a reflection of public expectations, and do they consider mental health factors to be compatible with administrative requirements of the organizations in which they are employed? In addition, respondents were asked to indicate the extent to which they believe that their present professional duties were related to mental health concerns.

ACCEPTANCE OF MENTAL HEALTH ASPECTS BY PUBLIC HEALTH ADMINISTRATORS

More than one-half of all respondents (1,616 or 51.9 percent) indicated that mental health aspects of public health had *limited acceptance* among public health administrators.[1] According to better than one-fifth (657 or 21.1 percent) mental health aspects were *tolerated*. Another 449 or 14.4 percent indicated that mental health aspects were *strongly accepted* by public health administrators, and an additional 125 or 4.0 percent indicated that they were *resisted* or *strongly resisted*. A group of 268 respondents or 8.6 percent gave *no response*.

The highest percents of respondents from each school reported *limited acceptance* of mental health aspects among public health administrators. Together, at least two out of three respondents from each school held the opinions that mental health aspects had either *limited acceptance* or were

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[1] For convenience of the reader, the term "mental health aspects" as used in this subsection refers specifically to the mental health aspects of public health.

tolerated by public health administrators. The highest percent from any school noting that mental health aspects had *limited acceptance* among public health administrators was 57.6 percent in the Columbia group, while the lowest percent holding this same opinion was 43.8 percent of the Harvard graduates. The highest percent of respondents from any school to indicate that mental health aspects were *tolerated* was 29.2 percent among Harvard graduates, and the lowest percent was 15.2 percent in the Columbia group.

The range of the percents of respondents indicating that mental health aspects were *strongly accepted* by public health administrators was from 18.1 percent in the Michigan group to 10.6 percent, respectively, in both the Hopkins and Pittsburgh groups. Those who held the opinion that mental health aspects were *resisted* or were *strongly resisted* by public health administrators ranged from 6.0 percent within the UCLA group to 2.1 percent within the Tulane group.

Similar directions in findings were obtained when respondents' replies were analyzed by their functional professional titles, major professional roles, principal sources of professional income, and principal work settings.

(a.) Functional professional title—The highest percents of respondents in each category of functional professional title indicated *limited acceptance* of mental health aspects by public health administrators. Among public health nurses (21.9 percent) was the highest percent of respondents to indicate that mental health aspects were *strongly accepted* by public health administrators, while the lowest percent to hold this view was among public health engineers or sanitarians (7.8 percent). *Limited acceptance* of mental health aspects was indicated by 60.3 percent of the administrators, and the lowest percent who noted this reply was among the biostatisticians (39.0 percent). The highest percent of respondents to indicate that mental health aspects were *tolerated* by public health administrators was among public health engineers or sanitarians (26.8 percent), and the lowest percent was among administrators (17.6 percent). The highest percent of respondents to indicate that mental health aspects were *resisted* by public health administrators was among health educators (7.3 percent), and the lowest percent to give this reply was among administrators (2.1 percent). *Strongly resisted* was indicated by 1.3 percent or less of the respondents in each of the functional professional titles.

(b.) Major role—The highest percents of respondents in each major role reported *limited acceptance* of mental health aspects by public health administrators. Among the respondents in each major professional role who indicated that mental health aspects were *strongly accepted* by public health administrators, the highest percent was reported by respondents in supervisory roles (20.7 percent). The lowest percents indicating that mental health aspects were *strongly accepted* by public health administrators were in consultative roles (12.3 percent) and in "other" roles (11.3 percent).

Among respondents in executive-administrative roles was the highest percent (57.0 percent) indicating that mental health aspects had *limited acceptance* among public health administrators; the lowest percent of respondents to give this reply was among those in research roles (45.4 percent). The range of percents for those indicating that mental health aspects were *tolerated* by public health administrators was from 25.1 percent among those in consultative roles to 18.4 percent among those in instructional roles. The highest percent indicating that mental health aspects were *resisted* by public health administrators was 6.6 percent among those in staff roles and the lowest was 1.9 percent among those in executive-administrative roles. Those who indicated that mental health aspects were *strongly resisted* by public health administrators comprised generally less than 1 percent among each of the above cited major professional roles of public health workers.

(c.) Principal source of professional income—The highest percent of respondents in each category of principal source of professional income indicated *limited acceptance* of mental health aspects by public health administrators.

Among respondents working for county, city, other local government was the highest percent indicating that mental health aspects were *strongly accepted* (19.0 percent) by public health administrators, while the lowest percent holding that view was among State government employees (12.1 percent). The highest percent of respondents to indicate *limited acceptance* (58.0 percent) originated within the group working in voluntary agencies or institutions, and the lowest percent, among the self-employed (40.0 percent). Among the self-employed also was the highest percent (30.0 percent) to indicate that mental health aspects were *tolerated;* the lowest percent giving this appraisal was among those working in voluntary agencies or institutions (16.8 percent). The range of percents indicating that mental health aspects were *resisted* was rather low and narrow—from 4.0 percent among respondents in the self-employed group to 2.5 percent among those in the Federal Government uniformed service. The reply that mental health aspects were *strongly resisted* ranged from 4.0 percent among the self-employed to 0.0 percent among those in voluntary agencies or institutions.

(d.) Principal work setting—The highest percent of respondents in each principal work setting indicated that mental health aspects had *limited acceptance* among public health administrators. Among those working in hospitals (17.0 percent) was the highest percent considering mental health aspects as *strongly accepted* by public health administrators; and the lowest percent giving this reply was among respondents working in mental health settings, both in and outside of a hospital (10.0 percent). The highest percent of respondents who considered mental health aspects to have *limited acceptance* among public health administrators worked in medical or other health professional schools (60.4 percent); the lowest percent to give this reply was among respondents in industry or business (46.2 percent). The highest percent indicating that mental health aspects were *tolerated* originated among those working in "other" settings (23.5 percent), while the lowest percent replying similarly worked in medical or other health professional schools (8.3 percent). The highest percent of respondents who noted that mental health aspects were *resisted* or *strongly resisted* by public health administrators worked in schools of public health (8.0 percent); the lowest percent with those opinions worked in hospitals (2.0 percent).

Among respondents working in a school of public health, 14.0 percent reported that mental health aspects were *strongly accepted*, 48.0 percent indicated *limited acceptance*, 12.0 percent *tolerated*, and 8.0 percent either *resisted* or *strongly resisted*.

PUBLIC EXPECTATION OF PUBLIC HEALTH WORKERS' KNOWLEDGE OF MENTAL HEALTH

Theoretically, a profession is responsive to its members—peers or practitioners—to its clientele, and to the expectations and demands of the public for its services. Public expectations as perceived by the members of a profession also shape the manner and scope in which professional missions, activities, and needs are defined.

A plurality of all respondents, 1,277 or 41.0 percent, held the opinion that the public had a *moderate expectation* as to public health workers' knowledge of mental health. This view was held by the highest percent of respondents from each school. In the Minnesota group (48.6 percent) was the highest percent of respondents expressing this view and the lowest percent was in the UCLA group (35.3 percent).

Somewhat more than one out of five of the total study population, 674 or 21.6 percent reported that the public had a *high expectation* of public health personnel being knowledgeable about mental health. More than one out of four of the respondents from Columbia (26.5 percent) and Berkeley (26.3 percent) reported a *high expectation;* the lowest percent replying this way was from Harvard (13.3 percent). A group of 468 or 15.0 percent of all respondents, notwithstanding, held the view that the public had *no expectation* about public health workers being knowledgeable about mental health. The highest percents of respondents from any school to indicate that the public had *no expectation* in this regard were in the Tulane (19.1 percent), Yale (18.9 percent), and Harvard (18.6 percent) groups, while the lowest percent to give this reply was in the Minnesota group (10.2 percent). An additional 696 respondents or 22.3 percent either held *no opinion* on this matter or gave *no response.* The percents of respondents indicating either *no opinion* or *no response* ranged from 28.3 percent in the Harvard group to 16.0 percent in the Tulane group.

(a.) Functional professional title—Among all categories of public health workers, except biostatisticians and laboratory scientists, the highest percents of respondents indicated that public expectations in this area were *moderate.* Public health nurses were more likely than respondents in any other category of functional professional title to indicate that the public expected public health workers to be knowledgeable about mental health; least likely to hold this view were biostatisticians, public health engineers or sanitarians, and laboratory scientists. In the public health nurse group were the highest percents of respondents to indicate both that the public had a *high expectation* (37.0 percent) and a *moderate expectation* (50.9 percent) about public health workers being knowledgeable about mental health. Within the public health engineer or sanitarian group was the highest percent (26.8 percent) to indicate that there was *no expectation* in the public as to public health workers being knowledgeable about mental health; in this group also, another 20.5 percent held *no opinion*. The highest percents of respondents reporting *no opinion* in this area were among both laboratory scientists (43.2 percent) and biostatisticians (33.0 percent).

(b.) Major role—Regardless of major role in present job also, the highest percents of respondents noted that there was a *moderate expectation* in the public regarding mental health knowledge among public health workers. The highest percent to note that such expectation was *moderate* was by those holding supervisory roles (45.5 percent), while the lowest percent to so indicate was among those in staff roles (33.2 percent). The highest percent to indicate *high expectation* was 25.6 percent among those in instructional roles, and the lowest percent noting this reply was 15.1 percent among those in research roles. *No expectation* was highest among those in staff roles (23.4 percent) and lowest among those in instructional roles (11.6 percent). The percent expressing *no opinion* was highest among those in research roles (31.3 percent) and lowest among those in executive-administrative roles (14.5 percent).

(c.) Principal source of professional income—The highest percents of respondents in each category of principal source of professional income indicated that the public had a *moderate expectation* as to public health workers' knowledge about mental health; the range of percents for this reply was from 46.3 percent among those in county, city, other local government to 36.0 percent among the self-employed. Among respondents employed by county, city, other local government was the highest percent (27.5 percent) to indicate that the public had a *high expectation* as to public health workers' knowledge about mental health, and in the Federal Government uniformed service was the lowest percent (16.0 percent) expressing that same view. The highest percent noting that the public had *no expectation* regarding public health workers' knowledge of mental health was among State government employees (19.1 percent) and the lowest percent holding this view was among those who were working for private profitmaking organizations (9.9 percent). Among the self-employed (28.0 percent) was the highest percent to express *no opinion*, while the lowest percent to hold *no opinion* in this area was among those working in county, city, other local government (9.6 percent).

(d.) Principal work setting—The highest percent of respondents in each principal work setting tended to judge that the public expectation of mental health knowledge by public health workers was *moderate*. The highest percent of respondents from any work setting to indicate a *moderate expectation* was among respondents working in hospital settings (44.7 percent); the lowest percent of respondents with the same view were working in mental health settings, both in a hospital and outside of a hospital (30.0 percent), and in industry or business (29.8 percent). The highest percent of respondents within a work setting to hold the opinion that the public had a *high expectation* as to public health workers' knowledge about mental health was among respondents working in mental health settings, both in a hospital and outside of a hospital (26.6 percent), and the lowest percent to hold this opinion was among those working in medical and other health professional schools (13.5 percent). Among respondents working in medical and other health professional schools was the highest percent noting that there was *no expectation* (22.9 percent) among the public regarding the mental health knowledge of public health workers; the lowest percents to share in this view were among those working in colleges and universities (12.2 percent), those working in hospitals (12.1 percent) and those working in "other" settings (12.2 percent). Among respondents working in mental health settings, both in a hospital and outside of a hospital, over one-fifth (21.7 percent) also reported *no expectation. No opinion* in this area was highest among those working in "other" settings (28.7 percent), and lowest among those working in health agencies, other than hospitals (16.2 percent). Among those working in mental health settings, both in a hospital and outside of a hospital, one out of six (16.7 percent) held *no opinion* on this issue.

Among respondents working in schools of public health, 18.0 percent indicated that there was a *high expectation* in the public as to knowledge of mental health among public health workers, 34.0 percent noted that there was a *moderate* public *expectation,* 20.0 percent that there was *no expectation,* and 26.0 percent registered *no opinion* on the subject.

PUBLIC EXPECTATION OF PUBLIC HEALTH WORKERS ASSUMING MENTAL HEALTH ROLES

A plurality of all respondents, 1,202 or 38.6 percent, also assessed that the public had a *moderate expectation* of public health workers assuming mental health roles. The highest percents of respondents from each school indicated that the public had a *moderate expectation* of public health workers assuming mental health roles; the highest percent of respondents from any school holding this view was 43.5 percent in the Minnesota group, and the lowest percent (30.4 percent) was in the Columbia group. As many as 581 or 18.7 percent considered that the public had *no expectation* of public health workers assuming mental health roles; the highest percent from any school holding this view was 23.0 percent in the Yale group and the lowest 12.8 percent in the Pittsburgh group.

Within the total study population, 532 or 17.1 percent of all the respondents indicated that the public had a *high expectation* that public health workers will assume mental health roles. While 21.8 percent of the respondents from Columbia noted *high expectation*, 10.2 percent of the respondents from Harvard replied similarly. An additional 800 respondents or 25.6 percent either held *no opinion* on this matter or gave *no response*. The percent of respondents indicating *no opinion* or *no response* ranged from 33.2 percent in the Harvard group to 19.2 percent in the Tulane group.

(a.) Functional professional title—The highest percents of respondents in each category of functional professional title, except biostatistician, public health engineer or sanitarian, and laboratory scientist, indicated that the public had a *moderate expectation* of public health workers performing mental health roles. Among public health nurses were the highest percents of respondents indicating that the public had both *high* (33.6 percent) and *moderate expectations* (50.9 percent) of public health workers performing mental health roles. In the public health nurse category also was the lowest percent to note that there was *no expectation* (10.2 percent) in the public as to the performance of mental health roles by public health workers. Among public health engineers or sanitarians was the lowest percent (7.3 percent) to indicate that there was a *high expectation* as well as the highest percent (33.1 percent) to note that there was *no expectation* in the public regarding the performance of mental health roles by public health workers. Among laboratory scientists were both the lowest percent (25.5 percent) to indicate *moderate expectation* and the highest percent to note *no opinion* (44.0 percent) as well.

(b.) Major role—The highest percents of respondents in each major work role noted that the public had a *moderate expectation* of public health workers performing mental health roles. Among respondents in instructional roles was the highest percent of those who considered that there was a *high expectation* (21.5 percent) in the public that public health workers assume mental health roles. The lowest percent noting that the public had a *high expectation* of public health workers in mental health roles was among research workers (9.9 percent); in this group also were both the lowest percent noting a *moderate expectation* (33.1 percent) and the highest percent expressing *no opinion* in this area (32.0 percent). Among those in consultative (42.3 percent) and those in executive-administrative (41.9 percent) roles were, respectively, the highest percents to note that there was a *moderate expectation* in the public with regard to the performance of mental health roles by public health workers. The opinion that the public had *no expectation* of public health workers performing mental health roles was highest among both those in consultative (21.6 percent) and in staff (22.2 percent) roles, and lowest among those in "other" roles (14.9 percent). The lowest percents to note *no opinion* were in executive-administrative (17.8 percent) and in instructional (17.7 percent) roles.

(c.) Principal source of professional income—The highest percents of respondents in each category of principal source of professional income indicated that the public had a *moderate expectation* about public health workers performing mental health roles. Among respondents who worked for county, city, other local government was the highest percent (44.7 percent) with the opinion that there was a *moderate expectation* in the public about public health workers performing mental health roles; the lowest percent to share this opinion were respondents whose principal source of professional income was a private profitmaking organization (33.3 percent). Among those who were self-employed (24.0 percent) was the highest percent with a *high expectation* as well as the lowest percent (12.0 percent) which considered that the public had *no expectation* in this area. The lowest percent to indicate a *high expectation* was among those in the Federal Government uniformed service (12.8 percent). *No expectation* by the public regarding the performance of mental health roles by public health workers was highest among State government employees (22.7 percent). The highest percent to hold *no opinion* was among those in the Federal Government uniformed service (32.3 percent), and the lowest percent was among those working for county, city, other local government (11.7 percent).

(d.) Principal work setting—The highest percent of respondents in each principal work setting, except business and industry, indicated that there was a *moderate expectation* in the public of public health workers performing mental health roles. Among the respondents working in mental health settings, hospital and outside of a hospital, was the highest percent (41.7 percent) to note that there was a *moderate expectation* of public health workers performing mental health roles. The highest percent who indicated that there was a *high expectation* in this area was among respondents working in hospitals (19.4 percent). The highest percent to indicate that there was *no expectation* was among those working in schools of public health (26.0 percent). Among respondents working in industry and business was the highest percent to hold *no opinion* in this area (31.7 percent).

The lowest percent of respondents to indicate that there was a *high expectation* in the public related to the performance of mental health roles by public health workers was among those working in medical and other health professional schools (8.3 percent), and the lowest percent to note a *moderate expectation* was in industry and business (24.0 percent). For *no expectation* the lowest percent was among those working in "other" settings (14.4 percent), and for *no opinion* the lowest percent was among those working in mental health settings, hospitals and nonhospitals (13.3 percent).

Among those respondents working in schools of public health, nearly one-third (32.0 percent) held the opinion that the public had a *moderate expectation* of public health workers assuming mental health roles; over one-fourth (26.0 percent) noted that there was *no expectation*, and another group of over one-fourth (26.0 percent) expressed *no opinion*. However, among those working in schools of public health 14.0 percent held the opinion that the public had *high expectation* of public health workers assuming mental health roles.

RELATIONSHIPS OF CURRENT PROFESSIONAL WORK TO MENTAL HEALTH CONCERNS

To probe further the views held by respondents about the relation of mental health to public health practice, employed respondents (N=2,848) were asked to indicate the extent to which they regarded that their present professional duties were related to what they would consider to be mental health concerns. These mental health concerns were not defined or illustrated in the questionnaire so that the respondents might not feel constrained by any imposed limits except their own in appraising the relationships of their work to mental health.

Among employed respondents, three out of 10 (862 or 30.3 percent) indicated that their present professional duties were *occasionally related* to mental health concerns; 658 or 23.1 percent noted that they were *moderately related,* while 537 or 18.9 percent reported that they were *strongly related.* An additional 412 or 14.5 percent stated that mental health concerns were *not related* to their present professional duties, and 379 or 13.3 percent gave *no response.* Thus, a majority of employed respondents regarded their jobs as either *moderately* or *occasionally related* to mental health concerns.

Although 23.4 percent of the UCLA and 23.1 percent of the Minnesota groups indicated that their duties were *strongly related* to mental health, only 13.4 percent of the Yale respondents replied similarly. The highest percent from any school to note *moderately related* was 28.4 percent of the Columbia group, while the lowest percent so indicating was 18.2 percent in the Pittsburgh group.

Among respondents noting *occasionally related,* the highest percents, 34.8 percent, were in both the Harvard and Yale groups; the lowest percent was 24.2 percent in the Tulane group. Replies indicating that mental health concerns were *not related* to present professional duties ranged from 23.3 percent in the Pittsburgh group to 9.0 percent in the Berkeley group. The most frequently expressed opinion among respondents from all 11 schools was that their duties were *occasionally related* to mental health concerns.

In no instance did the sum of respondents from any single school reach 50.0 percent for those answering either *strongly* and/or *moderately related;* the range for such combined replies was 46.3 percent in the UCLA group, 45.8 percent in the Columbia group, and 45.6 percent in the Berkeley group to 36.3 percent in the Tulane group.

The replies given were also examined by age, sex, present functional professional title, major work role, principal source of professional income, and principal work setting of employed respondents.

(a.) Age—Generally, differences in opinion regarding the degree of relationship between current work duties and mental health varied with age, although such differences were neither consistent nor sharply defined when they occurred. Among those in younger age groups, for instance, higher percents of respondents tended to describe their jobs as either *occasionally* and/or *not related* to mental health concerns; however, the opinions among those in older age groups were divided among *strongly related, moderately related,* or *occasionally related* to mental health. By specific age group, among those 51–55 years old, 27.8 percent described their jobs as *strongly related* in contrast to 13.4 percent among those 26–30 years old. In the 56-year-old-and-over age group 36.2 percent considered their jobs as *moderately related,* while among those 25 years old and under 18.8 percent, and in the 26- to 30-year-old group 19.1 percent held the same opinion. In the 26- to 30-year-old group 35.4 percent and in the 31- to 35-year-old group 35.1 percent noted their jobs as *occasionally related;* this opinion was also held by 19.1 percent among those 51–55 years old and by 18.8 percent in the 56-year-old-and-over group. One-fourth of those who were 25 years old and under (24.6 percent) considered their jobs *not related* to mental health, but in the 56 years old and over group only 3.0 percent held this opinion.

(b.) Sex—Women were more likely than men to consider their jobs as either *strongly related* or *moderately related* to mental health; while men were more likely to consider their jobs as *occasionally related* or *not related* to mental health. Slightly over one-third (34.1 percent) of the women described their jobs as *strongly related* to mental health compared to one-eighth among the men (12.1 percent). Among the women, three out of 10 (30.4 percent) deemed that their jobs were *moderately related* to mental health while among the men one-fifth (19.9 percent) held this view. Among men, however, 35.9 percent described their jobs as *occasionally related* to mental health; this opinion was held by 17.8 percent of the women. While 7.6 percent among the women regarded their jobs as *not related* to mental health, 17.5 percent among the men held this view.

(c.) Functional professional title—Among all categories of public health workers, except biostatisticians, health educators, public health nurses, and laboratory scientists, the highest percents of respondents indicated their work was *occasionally related* to mental health. More than one-half of all the public health nurses (51.7 percent) considered their work as *strongly related* and another 38.5 percent as *moderately related* to mental health concerns. On the other hand, among the public health nurses was the lowest percent of respondents to consider their work to be both *occasionally related* (6.0 percent) and *not related* (0.8 percent) to mental health concerns. Among laboratory scientists were, respectively, the lowest percents considering their work as *strongly related* (2.8 percent) and as *moderately related* (5.0 percent) to mental health concerns; in addition, the highest percent of those who considered their work *not related* to mental health (60.3 percent) was also in this group. Among public health engineers or sanitarians was the highest percent describing their jobs as *occasionally related* to mental health concerns (47.8 percent).

(d.) Major role—The highest percents of public health workers except those in instructional and research roles regarded their jobs as *occasionally* *related* to mental health. Among public health workers in research roles was the lowest percent to regard their jobs as *strongly related* (8.1 percent) and as *moderately related* (10.9 percent) to mental health concerns, as well as the highest percent to consider their work as *not related* (40.5 percent) to mental health. Among those with instructional roles was the highest percent seeing their jobs as *strongly related* (39.6 percent) and the lowest percent to regard their jobs as *occasionally related* (21.2 percent) to mental health. The highest percent of respondents to indicate that their jobs were *moderately related* to mental health (30.0 percent) were among those in executive-administrative roles and in this group also was the highest percent to describe their jobs as *occasionally related* (38.0 percent) to mental health. Among respondents in instructional roles (8.2 percent) and those in executive-administrative roles (7.9 percent) were the lowest percents to judge their jobs as *not related* to mental health.

In only one instance were those answering either *strongly* and/or *moderately related* in excess of one-half of the respondents within a role category; namely, 63.8 percent of the respondents in instructional roles. Among those in research roles less than one out of five respondents (19.0 percent) noted *strongly* and *moderately related*. Except for respondents in instructional roles, in all other major work roles a majority held the view that mental health concerns were neither *strongly* nor *moderately related* to present professional duties.

(e.) Principal source of professional income—The highest percents of respondents in each of the following categories indicated that their work was *occasionally related* to mental health: Federal Government uniformed service, private profitmaking organizations, State government, voluntary agencies and institutions, and "other" sources. A plurality of respondents whose principal source of professional income was either a county, city, other local government or self-employment reported *moderately related*, while the highest percents of those in the Federal Government civilian service were almost equally divided between *occasionally related* and *not related*.

Among those whose principal source of professional income was county, city, other local government were the highest percents to regard their work both as *strongly related* (27.5 percent) and *moderately related* (36.5 percent) to mental health; also in this group was the lowest percent (4.8 percent) to indicate that their work was *not related* to mental health. In the Federal Government uniformed service were both the lowest percent to consider their jobs as *strongly related* (8.0 percent) to mental health and the highest percent to consider them as *occasionally related* (42.3 percent). In private profitmaking organizations were both the lowest percent to consider their jobs as *moderately related* (17.7 percent) and the highest percent to consider their jobs as *not related* (29.8 percent) to mental health. In the self-employed group was the lowest percent (26.0 percent) to consider their jobs as *occasionally related* to mental health.

Proportionately, employees of county, city, other local government and of State government were more likely to perceive their present jobs as *strongly related* to mental health than were Federal Government employees. Among public employees, the following percents indicated that their work was *strongly related* to mental health:

Principal source of professional income:	Respondents reporting their jobs as *strongly related* to mental health	
	Number	*Percent*
County, city, other local government	120 of 436	27.5
State government	150 of 571	26.3
Federal Government:		
Civilian	58 of 317	18.3
Uniformed	32 of 399	8.0

(f.) Principal work setting—The highest percent of respondents to indicate that their work was *strongly related* to mental health was among those working in mental health settings, both in a hospital and outside of a hospital (83.3 percent); the lowest percents with this view were among those in industry and business (10.6 percent) and in "other" settings (10.9 percent). The lowest percent to indicate that their jobs were *moderately related* to mental health (13.5 percent) were in industry and business, as well as the highest percent to indicate that their work was *not related* to mental health concerns (41.3 percent). None of those working in mental health settings, both in a hospital and outside of a hospital, replied *not related*. The highest percents to indicate that their work was *moderately related* to mental health concerns worked in medical and other health professional schools (31.2 percent) and in health agencies, other than hospitals (30.9 percent). The highest percent to indicate that their job duties were *occasionally related* to mental health (49.0 percent) worked in hospitals, and the lowest percent with this view worked in mental health settings (1.7 percent).

Among those who worked in schools of public health, 30.0 percent described their jobs as *strongly related*, 28.0 percent as *occasionally related*, and 26.0 percent as *not related* to mental health concerns. An additional 14.0 percent described their jobs as *moderately related* to mental health.

In summary, the findings reported in this chapter suggest that public health administrators although not resisting the mental health aspects of public health work do not seem to be very enthusiastic about these concerns. Respondents' views also tended to confirm generally that the public had a *moderate expectation* regarding the extent of knowledge about mental health held by public health workers, and a *moderate expectation* with regard to their assuming mental health roles. Furthermore, respondents tended to consider their jobs to be *occasionally related* to mental health concerns.

Over one-half of all respondents indicated that there was *limited acceptance* of mental health aspects of public health by public health administrators; the highest percent from any school to indicate this reply was among respondents from Columbia where well over one-half held this opinion. Among each—those with the title of administrator, those with executive-administrative roles, those whose principal source of professional income was a voluntary agency or institution, and among those whose principal work setting was a medical or other health professional school—better than one-half indicated that mental health aspects had *limited acceptance* among public health administrators. Replies indicating that mental health was *resisted* or *strongly resisted* by public health administrators, however, were generally given by the lowest percents of respondents.

Since respondents have also indicated that mental health training is *useful* or *highly useful* to public health work (ch. 7) and have noted interest in additional training in mental health (ch. 12), the adjudged levels of acceptance of mental health aspects by public health administrators suggest that there is a gap between professional needs and judgments on one hand, and the perceptions of administrative behavior on the other. These findings also suggest that mental health although not resisted would have little priority and recognition within public health work as currently conceived. Further confirmation of these views are provided by the replies given by respondents working in schools of public health.

A plurality of respondents indicated that the public had a *moderate expectation* of mental health knowledge among public health workers; this view was held by the highest percent of respondents from each school; the highest percent to indicate this reply was among respondents from Minnesota. The same view was shared by the highest percents of respondents in all functional professional titles except among biostatisticians and laboratory scientists. Among laboratory scientists and biostatisticians the highest percents of respondents expressed *no opinion*. Among public health nurses were the highest percent of respondents to indicate that there was both a *high* and a *moderate expectation* of knowledge of mental health by public health workers.

The highest percents of respondents regardless of major professional role also noted that the public had a *moderate expectation* of mental health knowledge by public health workers. Among personnel in supervisory roles was the highest percent to consider that there was a *moderate expectation* in the public regarding mental health knowledge among public health workers. In all categories of principal source of professional income as well as principal work setting, the highest percents of respondents, respectively, noted the public had a *moderate expectation* of mental health knowledge by public health workers.

In the view of a plurality of respondents the public had a *moderate expectation* for public health workers to assume mental health roles; the highest percents of respondents from each school shared this opinion; and this reply was highest among respondents from Minnesota. The highest percents of respondents from each category of functional professional title, except biostatistician, public health engineer or sanitarian, and laboratory scientist, indicated a *moderate expectation* from public health workers regarding mental health roles. Among public health nurses were the highest percents in a functional professional title which considered that the public had both *high* and *moderate expectations* regarding mental health roles by public health workers. The highest percents of respondents in each major work role reported that the public had a *moderate expectation* of public health workers performing mental health roles. Among respondents in consultative roles and in executive-administrative roles were the highest percents to consider that the public had *moderate expectations* regarding public health workers assuming mental health roles. In all categories of principal source of professional income, the highest percents of respondents indicated the public had *moderate expectations* regarding public health workers performing mental health roles. The same view was held by the highest percents of respondents in each principal work setting except business and industry.

The highest percents of employed respondents considered their jobs to be *occasionally related* to mental health concerns. The second and third highest percents considered their jobs to be, respectively, *moderately* and *strongly related* to mental health concerns; and lowest were those who considered their jobs *not related* to mental health concerns. In the Harvard and Yale groups were the highest percents of employed respondents who considered their jobs as *occasionally related* to mental health concerns; in the Columbia group was the highest percent considering their jobs as *moderately related* to mental health, while in the UCLA and Minnesota groups were the highest percents considering their jobs to be *strongly related* to mental health. The highest percent of respondents to consider their jobs as *not related* to mental health was in the Pittsburgh group.

Analyses of employed respondents by six selected variables indicated that those who considered their jobs as *strongly related* to mental health concerns were likely to be characterized as follows: (1) Between 51 and 55 years old; (2) women; (3) held the functional professional title of public health nurse; (4) held instructional roles; (5) county, city, other local government was their principal source of professional income; and (6) their principal work setting was a mental health setting, in a hospital and outside of a hospital. Those likely to consider their jobs as *moderately related* to mental health were: (1) 56 years old and over; (2) women; (3) held the functional professional title of public health nurse; (4) held executive-administrative roles, (5) county, city, other local government was their principal source of professional income; and (6) their principal work settings were medical and other health professional schools and health agencies, other than hospitals. Those likely to consider their jobs *occasionally related* to mental health were: (1) Between 26 and 30 and 31 and 35 years old, (2) men, (3) held the professional title of public health engineer or sanitarian, (4) held executive-administrative roles, (5) their principal source of professional income was the Federal Government uniformed service, and (6) their principal work setting was in hospitals. Lastly, those who considered their jobs *not related* to mental health concerns were likely to be: (1) 25 years old and under, (2) men, (3) held a professional title of laboratory scientist, (4) held research roles, (5) their principal source of professional income was a private profitmaking organization, and (6) their principal work setting was in industry or business.

PART V

MENTAL HEALTH TRAINING NEEDS AND SUGGESTIONS FOR CURRICULUM MODIFICATIONS

CHAPTER 12

NEEDS FOR FURTHER TRAINING AND IMPROVEMENT OF MENTAL HEALTH INSTRUCTION IN SCHOOLS OF PUBLIC HEALTH

RESPONDENTS were asked three questions related to needs for further training in mental health in addition to two corollary questions about their views on improvements needed in mental health instruction provided in schools of public health. These questions were addressed to probe further respondents' views regarding the relevance of mental health in public health work, the interest of public health workers in applying mental health concepts and tools to public health work, and to tap some of their expectations and opinions about mental health training as provided by schools of public health.

Admittedly, from the views as expressed by respondents in this study, it is not possible to determine which specific educational experiences in public health, or in their careers in public health, or what other particular factors, if any, have given form, and contributed to the overall content of the opinions expressed regarding public health-mental health interrelations and division of labor. Yet, regardless of the specific factors which gave direction and intensity to the expressed views, such information is pertinent to training efforts in mental health in schools of public health as well as to continuation education programs in public health and mental health. Undoubtedly, graduates from schools of public health, both by virtue of their past training and career involvement in the front lines of health work, can offer views nurtured and supported by experience about the changing requirements and needs of the field.

FELT NEED FOR FURTHER TRAINING IN MENTAL HEALTH

Slightly more than one-half of all the respondents (1,652 or 53.0 percent) held the opinion that further training in mental health aspects of public health would be helpful in their work. This opinion was held by the highest percent of respondents from every school except Harvard. By school, the range of replies was from 59.3 percent in the Berkeley group to 39.4 percent in the Harvard group. A majority of the respondents from each of seven schools considered that further mental health training would be helpful to them: Berkeley (59.3 percent), UCLA (55.2 percent), Michigan (54.5 percent), Minnesota (57.1 percent), North Carolina (53.7 percent), Pittsburgh (51.7 percent), and Tulane (52.1 percent).

A total of 892 or 28.6 percent of all respondents held the view that further training in mental health aspects would *not* be helpful in their work. While 23.2 percent of the Berkeley respondents gave such a response, 42.9 percent of the Harvard respondents replied similarly. An additional 527 or 16.9 percent of all the respondents indicated *uncertain/don't know* as to whether further training in mental health might be helpful to their work. In the Michigan group (19.6 percent) was the highest percent from any school holding the opinion *uncertain/don't know* and the lowest percent giving the same reply was in the Tulane group (10.6 percent).

(a.) Age—In general, the percents of respondents indicating that further training in mental health would be helpful increased progressively with age up to 51–55 years old (64.3 percent) and leveled off with those 56 years old and over (63.5 percent).

(b.) Sex—Proportionately more women (66.5 percent) than men (46.5 percent) indicated that additional mental health training would be helpful to them in doing their work. Among the men (33.8 percent) the percent indicating that additional mental health training would *not* be helpful to their work was much higher than among the women (17.8 percent).

(c.) Primary professional discipline—Four out of five health educators (80.0 percent) considered that it would be helpful for them to receive additional mental health training; among nurses (78.8 percent) almost as high a percent held the same view. Within each of the following professional groups were, respectively, the lowest percents of respondents who indicated that additional mental health training would be helpful to their work: Biologists/entomologists/zoologists (30.0 percent), chemists/biochemists (16.0 percent), bacteriologists/laboratory scientists/parasitologists (29.2 percent), mathematicians/statisticians/programers (31.2 percent), veterinarians (14.6 percent), and engineers (22.4 percent).

(d.) Functional professional title—Among public health nurses was the highest percent of respondents (84.5 percent) who noted that additional mental health training would be helpful, while among laboratory scientists (15.6 percent) was the lowest percent in any professional title so indicating.

(e.) Major role—Among those in instructional roles (66.2 percent) was the highest percent of respondents in any major role to indicate that additional mental health training would be helpful to their jobs; the lowest percent giving this reply was among those doing research work (28.5 percent). One-half or more of the respondents in each of the following roles noted that additional mental health training would be helpful: Consultative (57.9 percent), executive-administrative (54.7 percent), staff (50.0 percent), and supervisory (58.1 percent).

(f.) Principal source of professional income—The highest percent of respondents indicating that additional mental health training would be helpful to their work was among those whose principal source of professional income was county, city, other local government (70.4 percent); the lowest percent holding this viewpoint was among those in the Federal Government uniformed service (38.8 percent). Among workers in private profitmaking organizations was the highest percent (43.3 percent) to indicate that further mental health training would *not* be helpful to their work.

(g.) Principal work setting—Almost three-fourths of the respondents working in mental health settings, both in and outside of a hospital, (73.3 percent) observed that additional mental health training would be helpful to their work; the lowest percents holding this view were among those working in industry or business (34.6 percent) and in "other" nonspecified work settings (34.8 percent). Among respondents working in schools of public health 42.0 percent indicated that additional mental health training would be helpful to their work.

(h.) Relationship of present work to mental health concerns—The extent to which respondents perceived their present work as related to mental health concerns appears to be associated positively with a recognition that additional mental health training would be helpful to their work. Of the respondents who indicated that their work was *strongly related* to mental health 83.4 percent stated that they would consider additional mental health training to be helpful to their work, compared respectively to 67.9 percent among those who believed their work was *moderately related,* 41.9 percent *occasionally related,* and 13.6 percent *not related* to mental health.

VIEWS ON IMPROVEMENT OF MENTAL HEALTH INSTRUCTION BY SCHOOLS OF PUBLIC HEALTH

Almost two-thirds of all the respondents (2,009 or 64.5 percent) were of the opinion that schools of public health should improve their instruction about mental health concerns. As many as 914 or 29.3 percent replied *uncertain/don't know,* and an additional 131 or 4.2 percent gave a negative response to the question: "Do you believe that schools of public health should improve instruction about mental health concerns?"

The highest percent of respondents from any of the schools to indicate that schools of public health should improve instruction about mental health was in the Tulane group (70.2 percent) and the lowest percent in the Pittsburgh group (60.0 percent). Among the Pittsburgh graduates also was the highest percent of respondents (35.6 percent) who noted *uncertain/don't know* regarding the need for such improvement, while in the Tulane group was the lowest percent (22.3 percent) replying similarly. Of those who believed that instruction about mental health by schools of public health did *not* need improvement, the highest percent was in the Yale group (7.4 percent), and the lowest percents were in both the Pittsburgh (2.2 percent) and Columbia (2.3 percent) groups.

(a.) Age—A majority of the respondents in every age group, except for those 25 years old and younger (46.9 percent) agreed that schools of public health should improve training about mental health concerns. In the 25-year-old-and-younger group also was the highest percent (45.8 percent) of any age group who indicated *uncertain/don't know* regarding such improvements. The highest percent of respondents to report that schools of public health should improve instruction in mental health concerns was in the 51- to 55-year-old age group (70.8 percent).

(b.) Sex—Among the women a higher percent (72.9 percent) than among the men (60.5 percent) believed that instruction about mental health concerns should be improved, and among the men a higher percent (32.8 percent) than among the women (22.1 percent) replied *uncertain/don't know*.

(c.) Primary professional discipline—Among health educators (80.0 percent) was the highest percent of respondents in any primary professional discipline to hold the opinion that training about mental health concerns needed improvement, and an almost equally high percent among the nurses (79.4 percent) also shared this view. Among chemists/biochemists was the lowest percent (32.0 percent) to note that such instruction needed improvement. Also among engineers (35.5 percent) and veterinarians (36.6 percent) relatively low percents expressed a need for improving mental health training.

(d.) Functional professional title—Four-fifths of the public health nurses (79.6 percent) considered that instruction about mental health concerns should be improved. More than three-fourths of the health educators (76.7 percent) held the same opinion, while the lowest percent to also hold that opinion was among laboratory scientists (44.0 percent). Less than one-half of the biostatisticians (48.0 percent) and of the public health engineers or sanitarians (48.8 percent) also believed that instruction about mental health concerns should be improved. Among biostatisticians (48.0 percent) and among laboratory scientists (47.5 percent) were, respectively, the highest percents of respondents from any professional title who replied *uncertain/don't know*.

(e.) Major role—Among respondents in instructional roles (72.4 percent) was the highest percent who believed that instruction about mental health should be improved, and among respondents in supervisory roles was the lowest percent (55.8 percent) who held that view. The highest percents of respondents who indicated *uncertain/don't know* were among those in staff (37.5 percent) and in supervisory (37.4 percent) roles.

(f.) Principal source of professional income—Among respondents working for a county, city, other local government (71.5 percent) and among those having "other," nonspecified sources of income (72.7 percent) were the highest percents of respondents to indicate that instruction about mental health concerns should be improved; among those in the Federal Government uniformed service (53.1 percent) was the lowest percent sharing that opinion. The highest percent of respondents replying *uncertain/don't know* (40.4 percent) was in the Federal Government uniformed service, while among the self-employed was the highest percent noting *no* (10.0 percent).

(g.) Principal work setting—Among respondents working in mental health settings, both in and outside of a hospital, was the highest percent to indicate that schools of public health should improve mental health instruction (81.7 percent), and among respondents working in industry or business (52.9 percent) was the lowest percent to believe that mental health instruction in schools of public health should be improved. Among those in industry or business also was the highest percent to indicate *uncertain/don't know* (42.3 percent). Of those who believed that schools of public health should *not* improve mental health instruction, the highest percents were among those working in industry or business (4.8 percent) and among those working in hospitals (4.9 percent).

(h.) Relationship of present work to mental health concerns—Respondents who described their job duties as *strongly related* to mental health (85.5 percent) were, respectively, more likely to believe that schools of public health should improve mental health instruction than respondents who considered their jobs to be *moderately related* (71.0 percent), *occasionally related* (58.7 percent), or *not related* (40.8 percent) to mental health.

INTEREST IN FURTHER TRAINING IF OPPORTUNITIES WERE MADE AVAILABLE

All respondents were also asked if they would be interested in additional training in mental health aspects of their work if opportunities for such training were made available to them. More respondents (1,745 or 56.0 percent) indicated that they would be interested in such training than those who indicated that further mental health training would be helpful to their jobs (1,652 or 53.0 percent).

While 62.2 percent of the UCLA and 61.7 percent of the Tulane respondents indicated interest in further training if opportunities were made available, 46.1 percent of the Hopkins and 42.0 percent of the Harvard respondents replied similarly. A majority of respondents from each of nine schools expressed interest in obtaining more mental health training if opportunities were made available: Berkeley (59.6 percent), UCLA (62.2 percent), Columbia (55.6 percent), Michigan (59.3 percent), Minnesota (56.5 percent), North Carolina (56.1 percent), Pittsburgh (55.6 percent), Tulane (61.7 percent), and Yale (51.6 percent).

On the other hand, 683 or 21.9 percent of all respondents expressed *no interest* in such further training, and an additional 640 or 20.5 percent indicated *uncertain/don't know*. Among the UCLA respondents (14.4 percent) was the lowest percent of respondents from any school to indicate *no interest* in further training; in the Harvard group was the highest percent (35.4 percent) to hold that opinion. The highest percent expressing *uncertain/don't know* as to whether to pursue additional mental health training if opportunities were made available was 25.4 percent in the Yale group, and the lowest percent was 12.8 percent in the Tulane group.

(a.) Age—A majority of respondents within each age category expressed an interest in further mental health training. The highest percent of respondents to note such interest was in the 51- to 55-year-old age group (65.5 percent), while the lowest percent was in the 31- to 35-year-old age group (52.2 percent).

(b.) Sex—A higher percent of the women (68.0 percent) than the men (50.3 percent) was interested in additional mental health training. The percent of the men (26.4 percent) *not interested* in such further training was more than twice that among the women (12.5 percent). Likewise, a higher percent among the men (21.9 percent) than among the women (17.9 percent) replied *uncertain/don't know.*

(c.) Primary professional discipline—Among health educators (85.9 percent) was the highest percent of respondents to indicate an interest in further mental health training; the lowest percent (23.2 percent) was among veterinarians. Higher percents of respondents from each of the following primary professional disciplines expressed interest in further mental health training than the percents of respondents from those very same disciplines who had indicated that further mental health training would be helpful: Bacteriologists/laboratory scientists/parasitologists, biologists/entomologists/zoologists, dietitians/nutritionists, educators/teachers, engineers, chemists/biochemists, dentists, health educators, mathematicians/statisticians/programers, psychiatrists, sanitarians, social workers, and veterinarians.

(d.) Functional professional title—Among public health nurses (83.0 percent) was the highest percent of respondents interested in further mental health training if such training would be available, and the lowest percent showing such an interest was among laboratory scientists (30.5 percent). Among laboratory scientists also was the highest percent (42.6 percent) *not interested* in additional training, while among biostatisticians was the highest percent (31.0 percent) of those who noted *uncertain/don't know.* Among public health nurses were both the lowest percents of those *not interested* (6.4 percent) and of those who replied *uncertain/don't know* (10.2 percent).

(e.) Major role—Among respondents in instructional roles was the highest percent (65.9 percent) to indicate an interest in further mental health training as well as the lowest percents to indicate *no interest* (17.1 percent) and to indicate *uncertain/don't know* (16.0 percent). The percent of respondents in supervisory roles reporting *uncertain/don't know* was similarly low (16.2 percent). Among respondents in research roles was the lowest percent (35.9 percent) of those with an interest in further mental health training as well as the highest percents who reported *no interest* (32.7 percent) and *uncertain/don't know* (29.6 percent).

(f.) Principal source of professional income—Among those working for a county, city, other local government was the highest percent of respondents to indicate an interest in further mental health training if opportunities were available (71.5 percent), and the lowest percents, respectively, to indicate *no interest* (9.9 percent) and *uncertain/don't know* (17.7 percent). The lowest percent of respondents with interest in further mental health training was among those working in a private profitmaking organization (43.3 percent) and in this group also was the highest percent with *no interest* (34.0 percent). Among Federal Government civilian employees was the highest percent noting *uncertain/don't know* (22.7 percent).

(g.) Principal work setting—The highest percent of respondents from any work setting to indicate interest in more mental health training if opportunities were available was among workers in mental health settings, both in and outside of a hospital (78.4 percent); while in industry or business (40.4 percent) and among those working in "other," nonspecified settings (39.6 percent) were, respectively, found the lowest percents expressing such an interest. Among respondents working in schools of public health nearly two out of three (58.0 percent) expressed interest in further mental health training; this was followed by three out of 10 (30.0 percent) who indicated *uncertain/don't know,* and one out of eight (12.0 percent) who were *not interested.* Among those working in schools of public health also the percent of respondents indicating that further mental health training would be helpful to their work was lower (42.0 percent) than the percent (58.0 percent) expressing interest in such training if opportunities were made available.

(h.) Relationship of present work to mental health concerns—Respondents acknowledging that their work was *strongly related* to mental health (80.8 percent) were more likely to indicate that they would pursue further mental health training if available than respondents who deemed their work *moderately related* to mental health (67.7 percent), *occasionally related* (47.1 percent), or *not related* (24.8 percent) to mental health.

PREFERENCE FOR AUSPICES OF FURTHER MENTAL HEALTH TRAINING

Respondents who indicated interest in further training in the mental health aspects of public health if opportunities were made available were also asked to indicate the preferred auspices for such training. Four options were presented with a single reply requested: On-the-job training, a school of public health, university or college, other (specify).

Of the 1,745 respondents who indicated an interest in further mental health training 656 or 37.6 percent expressed preference for such training to be carried out under auspices of a school of public health. A school of public health was the chosen auspice by the highest percents of respondents from every school; with the highest percent making that choice being from the Tulane group (53.4 percent). The percents of respondents from each of the other 10 schools stating a preference for further mental health training to be under auspice of a school of public health were: Berkeley (32.4 percent), UCLA (37.6 percent), Columbia (37.8 percent), Harvard (33.7 percent), Hopkins (37.3 percent), Michigan (37.3 percent), Minnesota (32.6 percent), North Carolina (45.6 percent), Pittsburgh (38.0 percent), and Yale (36.5 percent).

A total of 429, one in four respondents (24.6 percent), favored an on-the-job training auspice, while 405 or 23.2 percent favored a university or college auspice. By school, the highest percents of respondents favoring on-the-job training were from Berkeley (29.4 percent) and from Hopkins (28.9 percent), while the lowest percents choosing on-the-job training originated in the UCLA (17.6 percent) and in the Yale (17.5 percent) groups. Of those who preferred such training under auspice of a university or college, the highest percent was among Yale respondents (33.3 percent), and the lowest percents were among Tulane (17.2 percent) and North Carolina (17.0 percent) respondents. Of those choosing "other" auspices, the highest percent was in the Harvard group (13.7 percent) and the lowest percent in the Tulane group (1.7 percent).

(a.) Age—In the 25-year-old-and-under group, a university or college was the preferred auspice for further mental health training by the highest percent of respondents (35.3 percent); this was followed closely by those who preferred a school of public health (33.3 percent). In this youngest age group, the lowest percent (19.6 percent) preferred on-the-job training. The lowest percent to prefer a university or college was in the 51- to 55-year-old age group (17.9 percent). In all other age groups, except the youngest 25 years old and under and the oldest, age 56 and over, the highest percents of respondents preferred such training under auspice of a school of public health. In the 56-year-old-and-over age group, the highest percent of respondents (35.9 percent) preferred on-the-job training; this was the highest percent of respondents in any age group to state this preference.

The highest percent to prefer a school of public health (40.9 percent) was in the 36- to 40-year-old age group, while the lowest percent was in the 56-and-over-year-old group (30.8 percent). In every age group, the lowest percents of respondents chose some "other" auspice than those mentioned above; the highest percents making such a choice were in the 31- to 35-year-old age group (11.3 percent), in the 36- to 40-year-old age group (10.6 percent), and in the 51- to 55-year-old age group (10.7 percent) while the lowest percent was in the 25-year-old-and-under age group (2.0 percent).

(b.) Sex—There were no differences in the direction of responses given by men and women regarding the choice of auspice for further mental health training. Among both men (39.5 percent) and women (34.2 percent) the highest percents, respectively, preferred a school of public health; on-the-job training was the second preference among both men (23.5 percent) and women (26.2 percent). There was also a small difference in the size of the respective percents of respondents among the men (22.5 percent) and among women (24.6 percent) who preferred a university or college for such training and in the percent of men (9.9 percent) and of women (8.7 percent) who favored some "other" auspice as well.

(c.) Primary professional discipline—Among administrators/hospital administrators (34.0 percent), dentists (55.4 percent), dietitians/nutritionists (39.4 percent), educators/teachers (40.2 percent), health educators (35.6 percent), nurses (35.5 percent), sanitarians (50.0 percent), and "others" (47.7 percent) a school of public health was the preferred auspice for further mental health training. Among physicians, however, the highest percent preferred on-the-job training (33.4 percent). Among nurses almost as many preferred on-the-job training (23.5 percent) as a university or college (24.1 percent), while a higher percent among the physicians preferred a school of public health (29.9 percent) to a university or college (18.0 percent). In the sanitarian group, those preferring on-the-job training (24.2 percent) exceeded those preferring a university or college (16.2 percent).

(d.) Functional professional title—A school of public health was the preferred auspice for further mental health training by the following: Health educators (38.2 percent), administrators (38.6 percent), public health engineers or sanitarians (41.2 percent), public health nurses (35.0 percent), and "others" (40.0 percent). Among public health physicians, however, the highest percent of respondents (32.2 percent) preferred on-the-job training.

(e.) Major role—Preference for a school of public health was expressed by the highest percents of respondents in all professional roles except among those in supervisory roles (33.1 percent) where a slightly higher percent (33.8 percent) preferred on-the-job training. The lowest percents of respondents choosing on-the-job training were, respectively, among those in research (13.7 percent) and among those in instructional (13.5 percent) roles. Among those in research roles (48.0 percent) was the highest percent of respondents who preferred a school of public health, while the lowest percent with that preference was among those in "other" roles (29.3 percent). Among respondents in instructional roles was the highest percent choosing a university or college (31.1 percent), while the lowest percent stating that same preference was among those in staff roles (18.4 percent). The lowest percents to prefer some "other" auspices were among those in instructional (7.8 percent) and among those in research (7.8 percent) roles, and the highest percent was among those who considered their roles as "other" nonspecified (14.7 percent).

(f.) Principal source of professional income—A school of public health was the preferred auspice among respondents whose principal source of income was: County, city, other local government (36.5 percent), Federal Government civilian service (46.6 percent), Federal Government uniformed service (41.8 percent), State government (40.2 percent), and a voluntary agency or institution (35.7 percent). A university or college was preferred by the highest percent (36.0 percent) of those working in private profitmaking organizations; the lowest percent preferring a university or college (15.7 percent) was among workers in a county, city, other local government. As noted above, the highest percent choosing a school of public health for such training (46.6 percent) was in the Federal Government civilian service, and the lowest percent stating that same preference was among those in "other" nonspecified (30.2 percent) settings. Among those working for State government was the lowest percent (7.2 percent) which chose "other" nonspecified auspices for such training.

The highest percent of respondents who preferred further mental health training to be on-the-job was in county, city, other local government (33.7 percent), and the lowest percent making such a choice was among those working in private profitmaking organizations (16.4 percent).

(g.) Relationship of present work to mental health concerns—The highest percents of respondents chose a school of public health regardless of whether their work was described as *strongly related, moderately related, occasionally related,* or *not related* to mental health concerns. However, among respondents who reported their work as *not related* to mental health a higher percent chose a school of public health (46.1 percent) than among respondents whose work was, respectively, noted as *strongly related* (36.6 percent), *moderately related* (37.6 percent), or *occasionally related* (38.2 percent) to mental health concerns.

SUGGESTIONS FOR IMPROVING MENTAL HEALTH INSTRUCTION BY SCHOOLS OF PUBLIC HEALTH

Respondents who had indicated that schools of public health should improve their mental health instruction were asked to suggest how such instruction could be improved. The question was open-ended to allow for maximal latitude in the scope of responses. A qualitative analysis of responses illustrated by replies follows.

Suggestions for the improvement of instruction in or about mental health were classified into the following seven general areas or aspects: (1) Philosophy, (2) overall curriculum design, (3) integration and/or incorporation of mental health subject matter in the curriculum, (4) content and manner of presentation of mental health concerns, (5) teaching faculty, (6) teaching techniques, and (7) availability of and access to mental health course work. Occasional overlapping of areas occurred, with suggestions tending to relate to pragmatic issues of professional practice.

(1) *Philosophy.*—In general, the philosophy expressed supported the view that mental health and public health training should be interrelated in concept, attitude and experience. A physician described this concern as transcending mere instruction and involving the development of

> an attitude of active interest in optimum mental health patterns for the students, the faculty and their assistants . . . through well-directed school programs and activities under skilled leadership. With such a sensitized awareness to the importance of individual and group mental

> health, the mental health components of each public health study program could be introduced and discussed with much greater interest and more workable understanding.

A psychiatrist recommended "broadening the concept of public health to a wider range of health-social, economic, legal, and other aspects of living, including behavior and population dynamics." An educator suggested that greater attention be given "to the sociological analyses of societies which apparently foster the environment in which such problems of mental health arise." Also suggested by an educator was an emphasis on "the mental health and human relations aspects of public health practices and services."

(2) *Overall curriculum design.*—This area included concrete suggestions dealing primarily with expanding and improving the curriculum by directing course work toward (*a*) More emphases on techniques and methods of planning, programing, and operation of mental health services; (*b*) increased development of courses which present and amplify the theoretical bases and practical skills for effective interviewing, group guidance, and consultation; and (*c*) greater emphases on placement and fieldwork particularly to provide an environment where the students may acquire first hand, practical experience in planning, organization, and operations of community mental health centers and other psychiatric services as well.

(3) *Integration and/or incorporation of mental health subject matter in the curriculum.*—The need for integration and/or incorporation of mental health subject matter within the entire public health curriculum was related to the suggestion that mental health principles, concepts, and concerns ought to be integral parts of public health instruction and relevant to both the delivery of health services and implementation of public health programs. A dietitian/nutritionist expressed the view that "faculties should be made aware of incorporating mental health principles into their disciplines through seminars." The following statement by a physician elaborates further on this same point: "Many seminars are given in schools of public health, and during these seminars mental health aspects of the public health subjects involved should be stressed, particularly problems that may affect utilization of health care services." A dentist commented that "mental health concerns should be related to the implementation of specific public health programs; e.g., fluoridation." A sanitarian indicated a similar viewpoint when he wrote that: "Mental health aspects of public health work should receive attention in nonmental health courses."

(4) *Content and manner of presentation of mental health concerns.*—Regarding specific mental health courses, three types of suggestions were made: (*a*) That mental health courses be identified or designated explicitly as such and be presented as a distinctly identifiable part of the public health curriculum, (*b*) that a greater number of mental health courses be made available and accessible to students, and (*c*) that students be required to take one and preferably more mental health courses as a precondition for being granted a graduate degree by a school of public health. In discussing the

requirement for identifying content areas in mental health course work a nurse indicated that: "There should be a course on the organization and administration of mental health services which includes ways of developing programs emphasizing continuity of care and creative means of stretching the preventive mental health dollar."

A sanitarian observed that the need was for "more pragmatic instruction for individuals working in environmental health, especially public health workers employed by local and State government agencies." A psychiatrist who considered that "radical change" was needed made a range of recommendations encompassing a variety of contents and methods:

> Fieldwork should be increased in consultation and other areas . . . need for more concrete exposure to administrative problems . . . work with epidemiological techniques should focus on practical problems . . . need course work in program planning and evaluation . . . need greater basis in understanding community and legislative support . . . greater emphasis on mental health education techniques . . . comparative studies of models for delivery of mental health services . . . better understanding of relation of political community to the service community.

(5) *Teaching faculty.*—Another area of concern involved the qualifications of and types of faculty teaching mental health. One recommendation focused on the need for teaching faculty with specific knowledge and competencies based on actual work experience in such areas as implementing mental health programs at the community level, and with mental health of school-age children. A second type of recommendation was that an active effort be made to attract teaching faculty from a variety of disciplines, including psychology, sociology, and anthropology, as well as psychiatry. In this respect also, respondents commented frequently on the desirability of multidisciplinary approaches in training and practice of mental health work. Lastly, suggestions were made for improving the quality of instruction presented by inviting people prominent in the field of mental health to present guest lectures in their respective areas of expertise. A further suggestion was to bring about "more involvement of 'working' mental health personnel in the teaching program and more coordinated training programs between schools of public health and psychiatric facilities."

(6) *Teaching techniques.*—Teaching methods by which mental health subject matter and concerns could be more effectively communicated were also suggested. Recommended teaching methods included: A greater use of discussion groups in the form of interdisciplinary small-group seminars, work-study programs, means to enhance self-understanding and a greater awareness of one's impact on others, and a more widespread use of audiovisual training aids and fieldwork.

(7) *Availability of and access to mental health course work.*—It was recommended that it be made easier for students to take mental health courses by eliminating scheduling barriers and restrictions imposed on students who wish to take additional mental health courses, that a more

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active and fruitful liaison between public health and mental health programs and personnel be established, and that programs related to mental health research be improved.

In summary, a majority of respondents indicated that further mental health training would be helpful to them in their jobs, that schools of public health should improve their instruction about mental health, and that they would be interested in pursuing further mental health training if such opportunities were made available. Of those interested in further training, over one-third preferred that such training be conducted under auspice of a school of public health.

The respondents who recognized that additional mental health training would be helpful were likely to be women, to be in the 51- to 55-year-old age group or older, to have as a primary professional discipline health education or nursing, to have the functional professional title of public health nurse, to have instructional roles, to have a principal source of professional income from a county, city, other local government, to work in a mental health setting, and to describe their jobs as *strongly related* to mental health concerns.

Those who believed that schools of public health should improve their instruction about mental health were likely to be women, 51–55 years of age, health educators and nurses by primary professional discipline, have functional professional titles of public health nurses and health educators, have instructional roles, have as principal source of professional income a county, city, other local government or from some "other," nonspecified source, work in a mental health setting, and see their jobs as *strongly related* to mental health concerns.

Those who would be interested in further training if the opportunities were available were likely to be women, to be 51–55 years of age, health educators by primary professional discipline, public health nurses by functional professional title, have instructional roles, have as principal source of professional income a county, city, other local government, work in a mental health setting, and consider their jobs *strongly related* to mental health.

Preference for a school of public health as the auspice for further training was supported by the highest percents of respondents in all age groups except the youngest, 25 years old and under, and the oldest, 56 years old and over. Among the youngest age group preference was for a university or college while for the oldest it was on-the-job training. Men and women showed no major differences in their choice of a school of public health as the auspice for further mental health training. Administrators/hospital administrators, dentists, dietitians/nutritionists, educators/teachers, health educators, nurses, sanitarians and "others" by primary profession were likely to prefer a school of public health, but physicians were likely to prefer on-the-job training. The functional professional titles of those preferring training under auspice of a school of public health were likely to be health educators, administrators, public health engineers or sanitarians, public health nurses and "others"; public health physicians also were likely to prefer on-the-job training. A school of public health was preferred by the highest percents of respondents in all professional roles except among those in supervisory roles who were likely to prefer on-the-job training. By principal source of professional income, respondents working for county, city, other local government, Federal Government civilian and uniformed services, State government, and a voluntary agency or institution were likely to prefer a school of public health. Respondents who considered their work *not related* to mental health concerns were more likely to choose a school of public health for further training than those who considered their work *strongly related, moderately related*, or *occasionally related* to mental health concerns.

The views expressed on how to improve mental health instruction in schools of public health included issues related to philosophy, overall curriculum design, integration and/or incorporation of mental health subject matter in the curriculum, content and manner of presentation, teaching faculty, teaching techniques, and availability of and access to mental health courses.

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REVIEW OF FINDINGS

PART VI

REVIEW OF FINDINGS

CHAPTER 13

FOR more than a century the public health field has had an interest in assuming responsibilities related to mental health. This interest has been recognized by American schools of public health since their earliest beginnings. Historically, however, both the fields of public health and mental health have followed different directions and foci in terms of manpower training and professionalization, program organization, control and administration, and problem approaches. Such divergencies have been mainly produced by accretion rather than by design in response to the more precise recognition of health and mental health problems and to the capacities and limitations in the application of rapidly developing technical skills. Traditionally, public health workers centered their efforts on the prevention and control of infectious diseases in communities and populations and on the promotion, maintenance, and protection of health. Over time, their efforts have been extended to the prevention and control of early deaths and disabilities produced by chronic disorders. The foci of activities of mental health workers have been on mentally and behaviorally disordered individuals, and mental health skills have been primarily addressed to their clinical care, treatment, and custody. The increased complexity of scientific knowledge, and of the technologies for managing the above-mentioned general problem areas have also tended to reinforce the specialization of institutional arrangements and of professional activities with resulting gaps and fragmentation in concepts, in the administration of agencies, and in the training and utilization of personnel in both fields. Political and social forces have also operated to channel separately, and in effect to divide, resources and efforts. Attempts at collaboration and viable integration of both fields in dealing with common or complementary problem areas have thus been delayed and often thwarted.

After the end of World War II, the Federal Government gave new impetus to both public health and mental health efforts, and opportunities for reform which stimulated the development of locally organized programs became increasingly available. Theoretically, this development called for a closer relationship between mental health and public health including a greater involvement of the public health field in mental health work and a greater recognition of mental health considerations in overall public health practice. One effort in this direction was the establishment by the NIMH of a grants program to support mental health training in schools of public health. The study reported in this volume is concerned with issues related to the impacts of mental health training on public health and conversely, of public health on mental health as reflected in the perceptions and opinions of American public health workers who graduated from 11 accredited schools of public health in the United States during 1961–67. All these schools had participated in the above-mentioned NIMH training grants program.

A survey questionnaire was conducted by mail among the graduates to obtain data on their demographic, educational, and occupational characteristics as well as on their public health training and its mental health components. In this context, the extent to which these public health graduates were involved in mental health work and considered mental health training of value to public health was also the object of inquiry.

In general, the graduates who participated in the survey lived or worked in the larger metropolitan areas. They concentrated in the Pacific, the south Atlantic, the middle Atlantic, and in the east-north-central regions of the United States. Respondents came from a diversity of professional backgrounds into public health training, but primarily from health and related occupations. Although over four-fifths of the study population had already acquired a primary profession before entering a school of public health, only a few came from a mental health or related profession, viz, psychiatry, psychology, other behavioral sciences, psychiatric nursing, and psychiatric social work. Physicians and nurses comprised the largest primary professional groups. The majority of graduates from Harvard and Hopkins were physicians; while the largest concentrations of nurses had attended either Minnesota or Michigan.

A bachelor's was most frequently the highest degree held before entering a school of public health. Indeed, a majority of graduates from seven schools and a plurality from two other schools entered into public health training at this educational level. One-fifth of the graduates had M.D. degrees. Few respondents had either a D.D.S., D.V.M., or Ph. D., Sc. D., Ed. D. degree, while one in nine graduates reported a master's as their highest or most advanced degree before entering a school of public health.

One-half of all the respondents graduated from three of the schools: Michigan, Berkeley, and North Carolina. Three-fourths of the respondents worked toward an M.P.H., the generalist degree, with the rest being almost equally divided among those who received specialist degrees such as the M.S.P.H., M.S. Hygiene, M.H.A./M.S.H.A., and "other" master's degrees. The largest number of respondents from all the schools except from Pittsburgh received an M.P.H.; the most frequently reported degree among Pittsburgh graduates was the M.S. Hygiene. Thus, although a variety of degrees were received by graduates only one or two types of master's titles prevailed among the graduates from each school. During the 7-year period covered by this study, the number of graduating respondents fluctuated between 613 and 309 although nearly twice as many graduated in 1967 than in 1961 and in 1962.

Two-thirds of the respondents were men and on the whole they were younger than the women. There were more men among Harvard graduates than in any other school group. The highest percents of women were from North Carolina and Michigan; yet men predominated in numbers among all the schools. Slightly over one-half of the respondents were 36 years old and over at the time of the survey; with two-thirds of all being 40 years old or under. Among those who went to North Carolina was the highest percent of respondents 25 years old and under. Over one-fifth of all the respondents between ages 51 and 55 and better than three tenths of those 56 years old and over were from Berkeley.

Nearly two-thirds of all the respondents already had professional public health experience before attending a school of public health, most frequently from 1 to 4 years. Cumulatively, Michigan graduates had the most extensive total number of years of public health experience; the least was among UCLA graduates. At the time of the survey, the most frequently reported total length of public health experience was from 5 to 9 years. Substantially fewer respondents had had mental health experience than those with public health experience before attending a school of public health. Seven in ten respondents did not have any experience in mental health work. The highest percent of respondents with prior mental health experience was in the Berkeley group; the lowest percent was in the North Carolina group. Less than one-third of respondents without mental health experience indicated that they had felt a need for mental health training before attending a school of public health. Tulane respondents without such mental health experience indicated more frequently than any others that they had felt a need for mental health training; the least frequently to so report were in the Yale group.

At schools of public health, respondents had mostly taken their major programs in: (*a*) Administration or Practice of Public Health, (*b*) Medical Care and Hospital Administration/Administrative Medicine, (*c*) Environmental Health/Public Health Engineering/Sanitary Science, (*d*) Public Health Nursing, and (*e*) Health Education. Hopkins graduates took majors in 19 different areas; Pittsburgh graduates in 12. By school attended, the most frequently reported majors were: Administration or Practice of Public Health among respondents from Berkeley, Columbia, Hopkins, North Carolina, and Tulane; Medical Care and Hospital Administration/Administrative Medicine among respondents from UCLA, Minnesota, Pittsburgh, and Yale; Aviation Medicine among respondents from Harvard, and Public Health Nursing among respondents from Michigan. Majors in Public Health Nursing were mainly pursued by women while Medical Care and Hospital Administration/Administrative Medicine, Aviation Medicine, and Environmental Health/Public Health Engineering/Sanitary Science were mainly pursued by men. Physicians, excluding psychiatrists, and educators/teachers pursued more different kinds of majors than other respondents.

Very few respondents, 60 or 1.9 percent, pursued a Mental Health major. Those who majored in Mental Health were mainly nurses, physicians including psychiatrists, and psychologists. Although a majority of those who took Mental Health majors attended Columbia, Hopkins, and Harvard, Mental

Health majors were also reported in smaller number by graduates from six other schools. One-half of those who majored in Mental Health received an M.P.H. degree, and almost one-fourth each received either an M.S. Hygiene or some "other" master's degree.

In general, respondents tended to select a major program in the same or in a closely related field to their primary profession, for example, health educators tended to major in Health Education, nurses in Public Health Nursing, and dentists either in Public Health Dentistry, or Administration or Practice of Public Health. A majority of the respondents who did not identify themselves with a primary profession tended to major either in Medical Care and Hospital Administration/Administrative Medicine, in Administration or Practice of Public Health, or in Health Education.

Three different avenues were employed to tap information on the exposures of respondents to mental health in their overall public health training: (*a*) Interaction or contacts with mental health professionals on the faculty, (*b*) mental health courses taken, and (*c*) mental health aspects in public health content and mental health content—their coverage, quality of presentation, and usefulness.

Nearly two-thirds of all the respondents had experienced contacts with mental health professionals on the faculty and at least one-half of the respondents from each school reported such contacts. More frequently, these contacts were with psychiatrists followed by those with psychologists, psychiatric nurses, psychiatric social workers, and "other" mental health professionals. The most frequently reported contacts by role were with teachers with the highest percent of such contacts being with psychiatrists. A much larger number of respondents had contacts with mental health professionals than those who had taken mental health courses. Two-fifths of the respondents had taken one or more mental health courses. One-half or more of the respondents from Berkeley, UCLA, Harvard, Hopkins, Michigan, Minnesota, and Pittsburgh did not take any mental health courses. Only one mental health course was taken by the majority of those who had taken any such courses. The highest percents of those who took mental health courses considered these to be: (*a*) *Highly concerned* with psychiatry and psychology, and (*b*) *highly concerned* with public health issues. Among those who took mental health courses also, the highest percents deemed the mental health faculty to be *very knowledgeable* in public health, and they judged these courses as *moderately meaningful* to public health, and as *useful* to their current work. The public health faculty was judged by a plurality of all the respondents as *moderately interested* in mental health issues. Over one-third of the respondents indicated that mental health issues were *occasionally related* to their total public health course work.

The mental health aspects of two from a list of 31 public health topics —geriatric programs and alcoholism control—were covered in their public health training according to majorities of all respondents. A majority of respondents from eight schools indicated such coverage for alcoholism control, and from seven schools for geriatric programs. Of the 31 public health topics listed, 16 were covered in relation to their mental health aspects according to majorities from at least one school. According to the highest percents of respondents from each school the mental health aspects of the following topics were covered: Birth control and family planning, alcoholism control, geriatric programs, accident prevention, fluoridation, and industrial health. The lowest percents of respondents from each school indicated coverage of the mental health aspects of radiation control, classes for expectant parents, noise abatement, chest X-ray programs, air and water pollution, delinquency control, abortion, migrant health, and sex education. The topics covered were generally considered to have been *well-presented.* Fluoridation, and pregnancy and childbirth crises were considered most frequently to have been *well-presented.* Narcotic control was considered *well-presented* by the lowest percent of respondents. The coverage of the mental health aspects of the topics, however, was likely to be considered *of little use* or *of moderate use* to current work. The highest percents of respondents to rate a topic *of great use* did so for pregnancy and childbirth crises and premature births. Noise abatement was considered *of great use* by the least respondents. In no instance did the highest percent of respondents from any of the schools consider any topic to have been *of great use* to their work or practice.

According to majorities of all respondents, seven of the 43 mental health topics were covered in their public health training: importance of feelings and emotions, small-group interaction, understanding a client's attitudes, fears, and prejudices, role of the family, public attitudes toward the mentally ill, individual personality dynamics, and role of conscious and unconscious factors. Of the 43 mental health topics listed, 26 were covered during their training according to a majority of respondents from one or more of the schools of public health. Majorities of respondents from each school noted that both the topics importance of feelings and emotions, and understanding a client's attitudes, fears, and prejudices had been covered. The highest percents of respondents from each school indicated coverage of: Understanding a client's attitudes, fears, and prejudices, public attitudes toward the mentally ill, small-group interaction, sources of epidemiological data on mental disorders, role of the family, and importance of feelings and emotions. The lowest percents of respondents from each school indicated coverage of the topics psychiatric registers, social breakdown syndrome, and budget planning for mental health programs. In general, the mental health topics were considered to have been *well-presented.* The topics rated as *well-presented* by the highest percents of respondents were: Small-group interaction, and understanding a client's attitudes, fears, and prejudices; the lowest percent of respondents considered the topic organization and delivery of mental health services as *well-presented.* Relatively few respondents considered the mental health topics covered as *of great use* to their work. The topic which the highest percent of respondents considered to have been *of great use* was understanding a client's attitudes, fears, and prejudices. The lowest percents of respondents to consider a topic *of great use* did so for the distribution of mental disorders in the general population, the role of the private sector in mental health programing and financing, State, local, and Federal mechanisms for financing mental health programs, psychiatric registers, and types of mental health treatment agencies and services.

A majority of the respondents considered that further mental health training would be helpful to them in their jobs, and that they would be interested in pursuing further mental health training if such opportunities would become available. One-third preferred that such training be conducted under the auspice of a school of public health. A majority shared the view that schools of public health should improve mental health instruction. The areas mentioned as needing improvement were concerned with issues of philosophy, curriculum, integration of mental health content, teaching faculty and techniques, and the availability of and access to mental health courses.

At the time of the survey, 91.4 percent of all the respondents were employed, including 3.2 percent who were employed only part time. A group of 7.2 percent was unemployed. Employment in the health field was reported by 86.1 percent of the total respondent population. Thus, one in seven was not working at all in the health field.

Employed respondents most frequently identified their functional professional title as "other" which they generally specified either as their primary profession, specialty, role, or university rank. The next most frequently reported title was administrator. Executive-administrative was the most frequently reported major job role; this was followed by consultative. Executive-administrative roles were the most frequently performed according to respondents from every school. Relatively few of the employed respondents performed direct patient care duties; in fact, four out of five were not engaged in direct patient care.

Government was by far the principal source of income for employed respondents. The Federal Government including both the civilian and uniformed services was the principal source of income for more respondents than State government or than county, city, other local government. Voluntary agencies or institutions were the principal source of income for most of those employed in the private sector; only a few worked for a profitmaking organization and even less were self-employed. The principal work setting for the highest percent of employed respondents was a health agency outside of a hospital. Less than one-half as many worked either in an academic or in a hospital setting. Those working in academic settings were largely in universities or colleges with very few working in medical or other health professional schools or in schools of public health. Very few, 60 or 2.2 percent, of the employed respondents worked in a mental health setting, either in a hospital or outside a hospital.

Three-fourths of the respondents were working in the program area in which they had majored at a school of public health. Of the 60 respondents who had majored in Mental Health, 48 were working in this area. An additional 22 worked in mental health although they had majored in other program areas, but six of these came from a primary mental health profession. In other words, a total of 70 (or 2.2 percent) mental health workers was generated from all the respondents who participated in the survey.

Respondents most frequently considered their jobs to be *occasionally related* to mental health concerns, a view which was also most frequently expressed by respondents from every school. A plurality of respondents each held the opinion that the public has a *moderate expectation* of mental health knowedge by public health workers and a *moderate expectation* about public health workers assuming mental health roles. One-half of all the respondents, furthermore, expressed the view that public health administrators have a *limited acceptance* of the mental health aspects of public health work.

A majority of respondents considered that their public health training had been *highly useful* to their present functions; and mental health training in schools of public health was considered to be *very important* to public health work by more than one-third of all the respondents with nearly as many considering it as *extremely important*.

Respondents were likely to judge that schools of public health had prompted in them either a *little interest* or a *moderate interest* in mental health. Furthermore, a majority shared the view that schools of public health should improve their instruction about mental health.

Consistently throughout the study, awareness of and interest in mental health, and participation in mental health training and in work activities involving mental health were found to be related to the age and sex of respondents, and to mental health work experience prior to enrollment in a school of public health. This was particularly so for older rather than for younger respondents, among women rather than among men, and among nurses more than among members of any other primary profession. Similarly, among those groups, was most often noted an indication of having felt a need for mental health training prior to enrolling in a school of public health. These findings, thus, have program implications for the public health profession, the mental health professions, the schools of public health, and the public at large. From these findings it may be extrapolated that the programmatic implications are perhaps more crucial now than they had been in the past since now there is enough experience and knowledge for constructively challenging the present into more fruitful futures. If there is validity to the claim that there are mental health aspects to all public health problems which involve the community as a whole, it is necessary for schools of public health to suitably prepare their graduates, regardless of professional background, special interests, age, or sex, to deal with this dimension of their work. It would also be incumbent for the mental health field to recognize the public health dimensions of mental health work. Thus, if schools of public health are to be principal training centers for health planners and health administrators, it is essential that training for these students include thorough knowledge of the mental health field, as well as the availability of opportunities for them to work in the mental health field.

How individual schools might approach these issues can only be resolved with their assessment of their specific character and mission. A school, for instance, might find it appropriate for all students to enroll for a required course in the mental health aspects of public health practice. Another might plan for utilizing mental health faculty in new ways by encouraging tandem teaching by mental health experts and public health faculty in each of the specific public health subspecialty areas. Suitable practicum could be evolved for students to test out mental health techniques as applied to their area of interest or expertise.

If mental health instruction in schools of public health would emphasize utilitarian and practical issues in the context of practice theory, the overall pragmatic oriented public health training could become clearer. For mental health instruction to serve such ends, a school might well involve all faculty members in reviewing the extent of existing instruction in mental health as related to public health issues and pursue the construction of new approaches. For those public health workers in the field, schools of public health might consider increasing their continuation education programs in mental health focusing on the specific concerns of the practitioners. One initial approach which might be fruitful would be for the schools to bring together groups of alumni and faculty to discuss the elements of mental health instruction, the barriers to effective public health-mental health practice, and the effects of these barriers on instruction.

Moreover, there is an urgent need to educate mental health specialists on the many and valued contributions which public health workers can assume both directly and indirectly to the mental health field. The findings of this study attest to the apparent lack of opportunities presently available to public health workers for employment in the mental health field. The reasons for this condition must be openly explored and barriers removed so that public health expertise and techniques can be brought to bear on mental health programs. The contributions of mental health professionals to this issue must be sought. Where public health and mental health remain isolated from each other both programs fail to achieve optimal ends and it is the public which suffers in terms of human agony, wasted tax dollars, and misspent energies. In working toward rational health programing, political, economic, and social factors as well as vested interests which have served to discourage the development of operational interrelations between both public health and mental health ought to be dissolved and conflicting professional values resolved.

Leadership for evolving a new public health with greater humanistic concerns and with an interchange between public health and mental health rests with the schools of public health and all health and mental health workers in the field. Surely, as mental health moves from the familiarity of the clinical into the community, and as public health embraces the therapeutic while firmly committed to community approaches, some new meeting ground must be found for more effective utilization of personnel and implementation of new as well as tested concepts.

APPENDIXES

APPENDIX A

TABLE 1.—*Estimated employment in the medical and health service industry by selected occupation, 1966 and 1975 projections*

Occupation	1966		1975		Percent change, 1966–75
	Number	Percent	Number	Percent	
Total	3,672,000	100.00	5,350,000	100.00	45.7
Professional and technical	1,487,100	40.50	2,076,500	38.81	39.6
Engineers and natural scientists	23,200	.63	36,400	.68	56.9
Dentists	94,900	2.58	121,900	2.28	28.5
Dieticians and nutritionists	18,200	.50	25,100	.47	37.9
Registered nurses	584,100	15.91	799,200	14.94	36.8
Optometrists	13,900	.38	19,800	.37	42.4
Pharmacists	10,600	.29	11,300	.21	6.6
Physicians (M.D. and D.O.)	254,500	6.93	371,900	6.95	46.1
Chiropractors and therapists	54,900	1.50	86,700	1.62	57.9
Medical and dental technicians	203,600	5.54	376,400	7.04	84.9
Social and welfare workers	15,800	.43	25,000	.47	58.2
Other professional and technical	213,400	5.81	202,800	3.79	–5.0
Managers, officials, proprietors	94,400	2.57	143,900	2.69	52.4
Clerical workers	596,700	16.25	901,200	16.85	51.0
Stenographers, typists, secretaries	195,000	5.31	295,500	5.52	51.5
Bookkeeping workers	32,100	.87	43,400	.81	35.2
Office machine operators	5,100	.14	10,600	.20	107.8
Other clerical workers	364,500	9.93	551,700	10.31	51.4
Sales workers	1,300	.04	800	.02	–38.5
Craftsmen	87,900	2.39	121,600	2.27	38.3
Operatives	79,600	2.17	95,300	1.78	19.7
Laundry and drycleaning	44,400	1.21	64,400	1.20	45.0
Other	35,200	.96	30,900	.58	–12.2
Service workers	1,310,200	35.68	1,998,700	37.36	52.5
Aids, orderlies, attendants	637,900	17.37	1,023,900	19.14	60.5
Cooks	50,700	1.38	55,000	1.03	8.5
Practical nurses	254,800	6.94	398,200	7.44	56.3
Janitors and cleaners	79,400	2.16	98,100	1.83	23.6
Other service workers	287,400	7.83	423,500	7.92	47.4
Laborers	14,800	.40	12,000	.22	–18.9

Source: U.S. Department of Labor, Bureau of Labor Statistics, Health Manpower 1966–75, Report No. 323.

APPENDIX B

TABLE 1.—*Graduates from schools of public health by citizenship, 1961–67*

Year ending June	United States		Canada		Other countries		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1961	502	65.2	98	12.7	170	22.1	770	100.0
1962	559	69.7	70	8.7	173	21.6	802	100.0
1963	584	68.6	58	6.8	209	24.6	851	100.0
1964	698	70.0	90	9.0	210	21.0	998	100.0
1965	801	70.1	106	9.3	235	20.6	1,142	100.0
1966	859	71.1	90	7.5	259	21.4	1,208	100.0
1967	851	72.8	95	8.1	223	19.1	1,169	100.0
Total	4,854	69.9	607	8.8	1,479	21.3	6,940	100.0

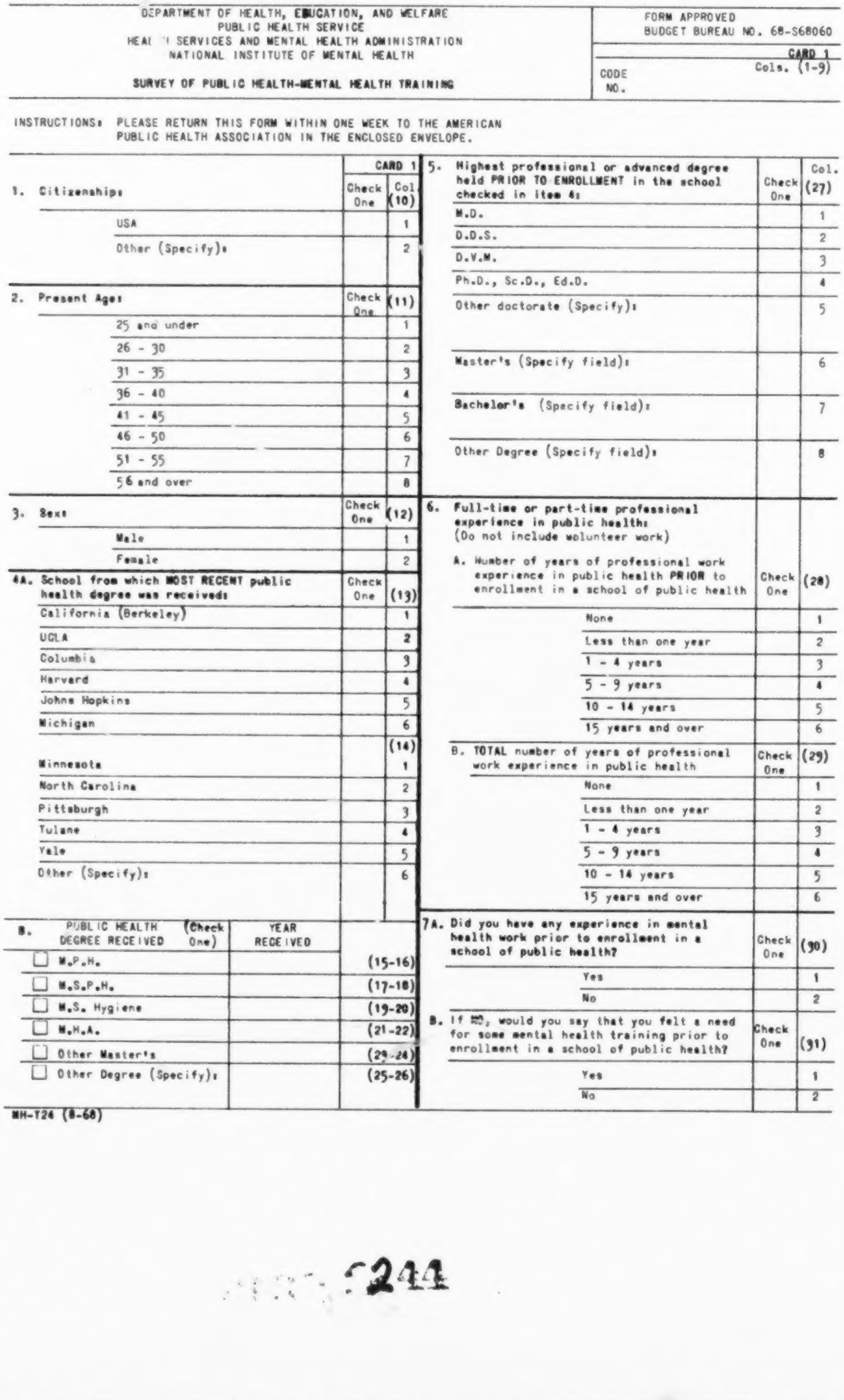
Source: Troupin, J. L.; American Public Health Association, Schools of Public Health in the United States and Canada (year ending June 1967), mimeographed, p. 11.

TABLE 2.—*Graduate degrees awarded by United States and Canadian schools of public health, 1961–67*

Year ending June	M.P.H./ D.P.H.	M.S.P.H./ M.S. Hygiene	M.H.A./ D.H.A.	Other masters	Masters subtotal	Dr. P.H.	Sc. D.	Ph.D.	Doctorate subtotal	Total graduate degrees
1961	562	93	23	58	736	20	11	3	34	770
1962	562	135	47	28	772	14	10	6	30	802
1963	592	157	47	25	821	12	14	4	30	851
1964	640	181	67	48	936	22	23	17	62	998
1965	766	194	70	57	1,087	18	19	18	55	1,142
1966	790	201	79	57	1,127	32	23	26	81	1,208
1967	729	215	72	78	1,094	33	22	20	75	1,169
Totals	4,641	1,176	405	351	6,573	151	122	94	367	6,940
Percent	66.9	16.9	5.8	5.1	94.7	2.2	1.6	1.4	5.3	100.0

Source: Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (year ending June 1967); mimeographed, p. 10.

Questionnaire
Survey of Public Health—Mental Health Training



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION
NATIONAL INSTITUTE OF MENTAL HEALTH

SURVEY OF PUBLIC HEALTH-MENTAL HEALTH TRAINING

FORM APPROVED
BUDGET BUREAU NO. 68-S68060

CARD 1
CODE NO. Cols. (1-9)

INSTRUCTIONS: PLEASE RETURN THIS FORM WITHIN ONE WEEK TO THE AMERICAN PUBLIC HEALTH ASSOCIATION IN THE ENCLOSED ENVELOPE.

		CARD 1
1. Citizenship:	Check One	Col (10)
USA		1
Other (Specify):		2
2. Present Age:	Check One	(11)
25 and under		1
26 - 30		2
31 - 35		3
36 - 40		4
41 - 45		5
46 - 50		6
51 - 55		7
56 and over		8
3. Sex:	Check One	(12)
Male		1
Female		2
4A. School from which MOST RECENT public health degree was received:	Check One	(13)
California (Berkeley)		1
UCLA		2
Columbia		3
Harvard		4
Johns Hopkins		5
Michigan		6
		(14)
Minnesota		1
North Carolina		2
Pittsburgh		3
Tulane		4
Yale		5
Other (Specify):		6

B. PUBLIC HEALTH DEGREE RECEIVED (Check One)	YEAR RECEIVED	
☐ M.P.H.		(15-16)
☐ M.S.P.H.		(17-18)
☐ M.S. Hygiene		(19-20)
☐ M.H.A.		(21-22)
☐ Other Master's		(23-24)
☐ Other Degree (Specify):		(25-26)

5. Highest professional or advanced degree held PRIOR TO ENROLLMENT in the school checked in item 4:	Check One	Col. (27)
M.D.		1
D.D.S.		2
D.V.M.		3
Ph.D., Sc.D., Ed.D.		4
Other doctorate (Specify):		5
Master's (Specify field):		6
Bachelor's (Specify field):		7
Other Degree (Specify field):		8
6. Full-time or part-time professional experience in public health: (Do not include volunteer work)		
A. Number of years of professional work experience in public health PRIOR to enrollment in a school of public health	Check One	(28)
None		1
Less than one year		2
1 - 4 years		3
5 - 9 years		4
10 - 14 years		5
15 years and over		6
B. TOTAL number of years of professional work experience in public health	Check One	(29)
None		1
Less than one year		2
1 - 4 years		3
5 - 9 years		4
10 - 14 years		5
15 years and over		6
7A. Did you have any experience in mental health work prior to enrollment in a school of public health?	Check One	(30)
Yes		1
No		2
B. If NO, would you say that you felt a need for some mental health training prior to enrollment in a school of public health?	Check One	(31)
Yes		1
No		2

MH-T24 (8-68)

CARD 1

8A. PRIMARY PROFESSIONAL DISCIPLINE: Check your **PRIMARY** professional discipline **PRIOR** to enrollment in a school of public health. Check only one professional discipline. **IF NO PROFESSIONAL TRAINING HAD YET BEEN RECEIVED PRIOR TO ENROLLMENT IN A SCHOOL OF PUBLIC HEALTH, CHECK "NON-APPLICABLE."**	Check One	Col. No. (32)
Administrator, Hospital Administrator		1
Bacteriologist, Laboratory Scientist, Parasitologist		2
Biologist, Entomologist, Zoologist		3
Chemist, Biochemist		4
Dentist		5
Dietitian, Nutritionist		6
Educator, Teacher		7
Engineer		8
Health Educator		9
		(33)
Industrial Hygienist		1
Mathematician Statistician, Programmer		2
Nurse		3
Physical Therapist		4
Physicist, Radiological Health Specialist, Health Physicist		5
Physiologist		6
Physician (Other than psychiatrist)		7
Psychiatrist		8
Behavioral Scientist, Anthropologist		9
		(34)
Behavioral Scientist, Psychologist		1
Behavioral Scientist, Sociologist		2
Behavioral Scientist, other		3
Sanitarian		4
Social Worker		5
Veterinarian		6
Other (Specify):		7
Non-applicable		8
B. MAJOR PROGRAM IN SCHOOL OF PUBLIC HEALTH TRAINING: Check the category representing the **MAJOR** program which you PURSUED IN YOUR SCHOOL OF PUBLIC HEALTH TRAINING	Check One	(35)
01 Administration or Practice, Public Health		1
02 Aviation Medicine		2
03 Behavioral Sciences		3
04 Biostatistics		4
05 Chronic Diseases, Gerontology		5
06 Dental Public Health		6
07 Environmental Health, Public Health Engineering, Sanitary Science		7

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B. Continued		(3)
08 Epidemiology		8
09 Health Education		9
		(36)
10 International Health		1
11 Maternal and Child Health		2
12 Medical Care and Hospital Administration, Administrative Medicine		3
13 Mental Health, Administrative Psychiatry, Community Psychiatry		4
14 Microbiology, Laboratory Public Health		5
15 Nutrition, Biochemistry		6
16 Occupational Health, Industrial Hygiene		7
17 Physiological Hygiene, Environmental Medicine		8
18 Population Studies, Family Planning, Demography		9
		(37)
19 Public Health Nursing		1
20 Radiation Health		2
21 Rehabilitation, Physical Therapy		3
22 Social Work in Public Health		4
23 Tropical Medicine, Entomology, Parasitology		5
24 Veterinary Public Health		6
25 Other (Specify):		7
C. Are you currently working in the area you checked in item 8B?	Check One	(38)
Yes		1
No		2

If **NO**, specify the area in which you are currently working. Enter the appropriate two digit number (01 to 25 inclusive) from item **8B**

Number ________(39-40)

9A. Are you currently employed?	Check One	(41)
Full-time		1
Part-time		2
Unemployed		3
B. If currently employed, are you working in the health field?	Check One	(42)
Yes		1
No		2
C. If NOT currently employed in the health field are you a:	Check One	(43)
Student		1
Housewife		2
Retired		3
Other		4

CARD 1

D. If not currently employed, are you looking for work in the health field?	Check One	Col. (44)
Yes		1
No		2
E. If not currently employed, are you looking for work OTHER THAN in the health field?		(45)
Yes		1
No		2

IF YOU ARE NOT CURRENTLY EMPLOYED, SKIP TO ITEM 13

F. Check the one item which best describes your present FUNCTIONAL professional title:	Check One	(46)
Biostatistician		1
Health Educator		2
Medical Care Administrator		3
Public Health Engineer or Sanitarian		4
Public Health Nurse		5
Public Health Physician		6
Scientist (Laboratory)		7
Other (Specify):		8

G. Check the one item which best describes the MAJOR role in your present job:	Check One	(47)
Consultative		1
Executive-administrative		2
Instructional		3
Research		4
Staff		5
Supervisory		6
Other (Specify):		7

H. Are you directly engaged in patient care?	Check One	(48)
Yes		1
No		2

CARD 1

10. PRINCIPAL source of professional income	Check One	(49)
County, City, Other Local Government		1
Federal Government (Civilian)		2
Federal Government (Uniformed Service)		3
Private Organization (Profit-making)		4
Self-employed		5
State Government		6
Voluntary Agency or Institution		7
Other (Specify):		8

11. PRINCIPAL setting where you work	Check One	(50)
College or University		1
Health Agency, Hospital		2
Health Agency, Other than Hospital		3
Industry or Business		4
Medical or Other Health Professional School		5
Mental Health Service, Hospital		6
		(51)
Mental Health Service, Other than Hospital		1
Private Practice		2
School of Public Health		3
School System		4
Welfare or Social Agency		5
Other (Specify):		6

12. To what extent do you believe your present professional duties are related to what you would define as mental health concerns?	Check One	(52)
Strongly Related		1
Moderately Related		2
Occasionally Related		3
Not Related		4

13. Below is a list of public health topics which may have been discussed during your training in a school of public health. We are interested in your comments about the mental health aspects of these topics WHETHER YOU TOOK SPECIAL COURSES IN ANY OF THEM OR NOT.

In column 1 (question 1) please check whether the mental health aspect was covered in any class.

If your reply to question 1 is "NO" or "DON'T RECALL," SKIP QUESTIONS 2 and 3 FOR THAT TOPIC.

If your reply to question 1 is "yes", please check in column 2 (question 2) whether the mental health aspect was "well-presented".

In column 3 (question 3) please check its usefulness in your work.

A. SOCIOENVIRONMENTAL

PUBLIC HEALTH TOPIC	1. Was the mental health aspect covered in any class?			2. If yes, was it well-presented?			3. Has the MENTAL HEALTH aspect been useful in your work?			CARD 1
	YES	NO	DON'T RECALL	YES	NO	DON'T RECALL	OF LITTLE USE	OF MODERATE USE	OF GREAT USE	
	1	2	3	1	2	3	1	2	3	
ACCIDENT PREVENTION										(53-55)
AIR & WATER POLLUTION										(56-58)

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A. SOCIOENVIRONMENTAL - Continued

PUBLIC HEALTH TOPIC	1. Was the mental health aspect covered in any class?			2. If yes, was it well-presented?			3. Has the MENTAL HEALTH aspect been useful in your work?			CARD 1
	YES	NO	DON'T RECALL	YES	NO	DON'T RECALL	OF LITTLE USE	OF MODERATE USE	OF GREAT USE	Col. No.
	1	2	3	1	2	3	1	2	3	
ALCOHOLISM CONTROL										(59-61)
CHEST X-RAY PROGRAMS										(62-64)
CIGARETTE SMOKING										(65-67)
DELINQUENCY CONTROL										(68-70)
FLUORIDATION										(71-73)
GERIATRIC PROGRAMS										(74-76)
HOUSING										(77-79)
INDUSTRIAL HEALTH										CARD 2 (10-12)
IMMUNIZATION PROGRAMS										(13-15)
MEDICAL QUACKERY										(16-18)
MIGRANT HEALTH										(19-21)
NARCOTIC CONTROL										(22-24)
NOISE ABATEMENT										(25-27)
NUTRITION & FOOD FADS										(28-30)
RADIATION CONTROL										(31-33)
SUICIDE PREVENTION										(34-36)
TUBERCULOSIS CONTROL										(37-39)

B. FAMILY AND CHILD HEALTH

	YES	NO	DON'T RECALL	YES	NO	DON'T RECALL	OF LITTLE USE	OF MODERATE USE	OF GREAT USE	CARD 2
	1	2	3	1	2	3	1	2	3	
ABORTION										(40-42)
"BATTERED CHILD SYNDROME"										(43-45)
BIRTH CONTROL AND FAMILY PLANNING										(46-48)
CLASSES FOR EXPECTANT PARENTS										(49-51)
OUT-OF-WEDLOCK CHILDREN										(52-54)
POSTNATAL CARE OF MOTHERS										(55-57)
PREGNANCY & CHILDBIRTH CRISES										(58-60)
PREMATURE BIRTHS										(61-63)
SCHOOL HEALTH PROGRAMS										(64-66)
SEX EDUCATION										(67-69)
VENEREAL DISEASE										(70-72)
WELL-CHILD CONFERENCES										(73-75)

14. Now please comment on the more specific MENTAL HEALTH content of your public health training and its usefulness in your subsequent work.

Comment on each topic by checking the appropriate answer to each question the same as in Item 13.

A. BASIC

MENTAL HEALTH TOPIC	1. Was the mental health aspect covered in any class?			2. If yes, was it well-presented?			3. Has the content been useful in your work?			CARD 3
	YES	NO	DON'T RECALL	YES	NO	DON'T RECALL	OF LITTLE USE	OF MODERATE USE	OF GREAT USE	Col. No.
	1	2	3	1	2	3	1	2	3	
I. PERSONALITY THEORY										
Importance of feelings and emotions										(10-12)
Individual personality dynamics										(13-15)
Role of conscious and unconscious factors										(16-18)
Survey of personality theories										(19-21)
II. SOCIALIZATION										
Infancy and the preschool period										(22-24)
Role of the family										(25-27)
III. INTERPERSONAL RELATIONS	1	2	3	1	2	3	1	2	3	
Sensitivity to behavioral and verbal cues										(28-30)
Small group interaction										(31-33)
Understanding a client's attitudes, fears and prejudices										(34-36)
B. GENERAL										
I. TECHNIQUES OF MENTAL HEALTH WORK	1	2	3	1	2	3	1	2	3	
"Anticipatory guidance" as related to the primary prevention of mental disorders										(37-39)
Means of improving the mental health functioning of community care givers, e.g., clergy, police, teachers										(40-42)
Means of introducing innovation and change in mental health programs										(43-45)
Principles of consultation										(46-48)
Principles of interviewing										(49-51)
Other preventive mental health intervention techniques e.g., community organization, mental health education, parent education, crisis intervention										(52-54)
Referral to special mental health facilities										(55-57)
II. ADMINISTRATION OF MENTAL HEALTH WORK	1	2	3	1	2	3	1	2	3	
Budget planning for mental health programs										(58-60)
Comprehensive community mental health centers										(61-63)

MENTAL HEALTH TOPIC	1. Was the mental health aspect covered in any class?			2. If yes, was it well-presented?			3. Has the content been useful in your work?			CARD 3
II. ADMINISTRATION OF MENTAL HEALTH WORK -Continued	YES	NO	DON'T RECALL	YES	NO	DON'T RECALL	OF LITTLE USE	OF MODERATE USE	OF GREAT USE	Col. No.
	1	2	3	1	2	3	1	2	3	
Coordinating interagency relationships in mental health										(64-66)
Distribution of mental disorders in the general population										(67-69)
How to develop programs for the control of mental disorders										(70-72)
Identification and relief of mental hazards										(73-75)
Mental health functions of basic community services in health, education and welfare										(76-78)
Mental health medico-legal problems										CARD 4 (10-12)
Organization and delivery of mental health services										(13-15)
Principles of comprehensive mental health planning										(16-18)
Role of the private sector in mental health programming and financing										(19-21)
State, local and federal mechanisms for financing mental health programs										(22-24)
Utilization of mental health data for program evaluation										(25-27)
III. INFORMATIONAL	1	2	3	1	2	3	1	2	3	
Etiological factors in mental disorders										(28-30)
Psychiatric registers										(31-33)
Public attitudes towards the mentally ill										(34-36)
Roles and functions of mental health specialists										(37-39)
Sources of epidemiological data on mental disorders										(40-42)
Varieties of mental disorders										(43-45)
	C. SPECIALIZED									
I. SECONDARY PREVENTION	1	2	3	1	2	3	1	2	3	
How to recognize mental disorders										(46-48)
Mental disorder case-finding role of public health workers										(49-51)
Methods for care of patients with mental disorders, e.g., psychological-psychiatric, pharmacological, milieu or social environmental										(52-54)

MENTAL HEALTH TOPIC	1. Was the mental health aspect covered in any class?			2. If yes, was it well-presented?			3. Has the content been useful in your work?			CARD 4
I. SECONDARY PREVENTION – Continued	YES	NO	DON'T RECALL	YES	NO	DON'T RECALL	OF LITTLE USE	OF MODERATE USE	OF GREAT USE	Col. No.
	1	2	3	1	2	3	1	2	3	
"Social Breakdown Syndrome										(55-57)
Types of mental health treatment agencies and services										(58-60)
II. TERTIARY PREVENTION										
Adjustment problems of ex-patients and their families										(61-63)
Psychiatric rehabilitation agencies and services										(64-66)
Psychiatric rehabilitation functions of public health workers										(67-69)

15. The following questions are about your mental health training experience in a school of public health.

A. How many CATALOG LISTED COURSES labeled as "Mental Health" did you take?	Check One	(70)
None		1
One		2
Two		3
Three or more		4

B. If you responded in 15A that you took any such course(s), indicate if these were:	Check One	(71)
Required		1
Elective		2
Both required and elective		3
Don't recall		4

16. The following table lists faculty members by profession and role.

Check, if any, the types of contacts you had with the faculty members listed.

IF YOU HAD NO CONTACTS WITH SUCH FACULTY MEMBERS, PLACE A CHECK IN THE BOX AND SKIP TO ITEM 17 ☐ 1/2 (72)

PROFESSION	TEACHER	ADVISOR/ SUPERVISOR	TUTOR	OTHER	CARD 5
Psychiatry	(10)	(11)	(12)	(13)	
Psychology	(14)	(15)	(16)	(17)	
Psychiatric Nursing	(18)	(19)	(20)	(21)	
Psychiatric Social Work	(22)	(23)	(24)	(25)	
Other Mental Health Profession (Specify):	(26)	(27)	(28)	(29)	

IF YOU INDICATED IN ITEM 15A THAT YOU DID NOT TAKE A CATALOG LISTED COURSE LABELED AS "MENTAL HEALTH," SKIP ITEMS 17 and 18, AND CONTINUE WITH ITEM 19.

17A. If you indicated in item 15A that you took a catalog listed course(s) labeled as "Mental Health," in general, to what extent would you say that such mental health course work was concerned with psychiatry and psychology?	Check One	CARD 5 (30)
Highly concerned with psychiatry and psychology		1
Moderately concerned with psychiatry and psychology		2
Not concerned with psychiatry and psychology		3
No opinion		4

17B. If you indicated in item 15A that you took a catalog listed course(s) labeled as "Mental Health," in general, to what extent would you say that such mental health course work was concerned with public health issues?	Check One	(31)
Highly concerned with public health issues		1
Moderately concerned with public health issues		2
Not concerned with public health issues		3
No opinion		4

CARD 5

18A. To what extent would you say that the mental health faculty was KNOWLEDGEABLE about public health problems and approaches?	Check One	(32)
Very knowledgeable		1
Knowledgeable		2
Not very knowledgeable		3
No opinion		4

B. To what extent would you say that the course work offered by the mental health faculty was MEANINGFUL in the context of public health concerns?	Check One	(33)
Highly meaningful		1
Moderately meaningful		2
Not meaningful		3
No opinion		4

C. To what extent would you say that your school of public health training in the area of mental health is USEFUL in the performance of your present work functions?	Check One	(34)
Highly useful		1
Useful		2
Of little use		3
No use at all		4
No opinion		5

19A. To what extent would you say that other public health faculty was INTERESTED in discussing mental health aspects of public health?	Check One	(35)
Very interested		1
Moderately interested		2
Not interested		3
No opinion		4

B. To what extent would you say that mental health issues were RELATED to public health concerns in your total public health course work?	Check One	(36)
Highly related		1
Moderately related		2
Occasionally related		3
Not related		4
No opinion		5

CARD 5

20. What level of interest in mental health was prompted by your school of public health training?	Check One	(37)
High interest		1
Moderate interest		2
Little interest		3
No opinion		4

21A. In your experience to what extent are the mental health aspects of public health ACCEPTED by public health administrators?	Check One	(38)
Accepted strongly		1
Accepted but limited		2
Tolerated		3
Resisted		4
Strongly resisted		5

B. In your experience to what extent does the public EXPECT public health personnel to be knowledgeable about mental health?	Check One	(39)
High expectation		1
Moderate expectation		2
No expectation		3
No opinion		4

C. In your experience to what extent does the public EXPECT public health workers to assume a mental health role?	Check One	(40)
High expectation		1
Moderate expectation		2
No expectation		3
No opinion		4

22. To what extent was your TOTAL school of public health training USEFUL to your present functions?	Check One	(41)
Highly useful		1
Useful		2
Of little use		3
No use at all		4
No opinion		5

23. In your opinion, how IMPORTANT would you say that mental health training is to the performance of public health work?	Check One	(42)
Extremely important		1
Very important		2
Of some importance		3
Not important at all		4
No opinion		5

		Check One	CARD 5 (43)
24A. Do you feel that further training in mental health aspects would be helpful in your work?	Yes		1
	No		2
	Uncertain/don't know		3

		Check One	(44)
B. Were opportunities made available for you to obtain some further training in the mental health aspects of your professional work, would you be interested in participating?	Yes		1
	No		2
	Uncertain/don't know		3

		Check One	(45)
C. If your response in 24B was YES, under whose auspices would you prefer that such training be held?	On the job		1
	A school of public health		2
	University or college		3
	Other (Specify):		4

		Check One	(46)
25A. Do you believe that schools of public health should improve instruction about mental health concerns?	Yes		1
	No		2
	Uncertain/don't know		3

B. If YES, in what ways would you say that schools of public health could improve such instruction. Be specific.

____________________ (47-48)

____________________ (49-50)

____________________ (51-52)

____________________ (53-54)

____________________ (55-56)

____________________ (57-58)

____________________ (59-60)

____________________ (61-62)

THANK YOU FOR YOUR COOPERATION

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TABLE 3.—*Primary professional discipline of all graduates from schools of public health in the United States, 1961–67,*[1] *and of respondents to survey of public health-mental health training*

Primary professional discipline	All graduates [2]		All survey respondents [3]	
	Number	Percent	Number	Percent
Physicians	1,118	23.0	639	20.5
Nurses	675	13.9	467	15.0
Educators, health educators	406	8.4	200	6.4
Statisticians	248	5.1	77	2.5
Engineers	235	4.8	107	3.4
Sanitarians	364	7.5	217	7.0
Dentists	176	3.6	106	3.4
Veterinarians	142	3.0	82	2.6
All other	1,490	30.7	1,220	39.2
Total	4,854	100.0	3,115	100.0

[1] Source: Adapted from Troupin, J. L.: American Public Health Association, Schools of Public Health in the United States and Canada, for the years ending June 1961–67, mimeographed annual reports.

[2] Includes all graduates who were permanent residents of the United States at the time of enrollment, master's and doctoral levels, from all schools of public health in the United States; data compiled by J. L. Troupin.

[3] Includes only American citizen, master's degree recipients from 11 schools of public health in the United States.

Table 4.—*Graduates from schools of public health, by mental health and all majors, 1961–67,*[1] *and of respondents to survey of public health-mental health training*

Year	All graduates			All survey respondents[2]		
	Mental Health majors	All majors	Ratio of Mental Health majors to all majors (percent)	Mental Health majors	All respondents	Ratio of Mental Health majors to all respondents (percent)
1961	17	886	1.9	6	309	1.9
1962	13	802	1.6	3	309	1.0
1963	13	851	1.5	5	364	1.4
1964	25	998	2.5	13	443	2.9
1965	16	1,142	1.4	9	508	1.8
1966	23	1,208	1.9	10	613	1.6
1967	23	1,169	2.0	14	569	2.5
Total	130	7,056	1.8	60	3,115	1.9

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[1] Source: Adapted from Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada, for the years ending June 1961–67, mimeographed annual reports. Includes all graduates, regardless of citizenship, from all schools of public health in the United States and Canada who received master's degrees and doctoral degrees.

[2] Includes only American citizen, master's degree recipients from 11 schools of public health in the United States.

CRITERIA AND GUIDELINES FOR ACCREDITING SCHOOLS OF PUBLIC HEALTH*

INTRODUCTION

THE OBJECTIVE of any profession must be that of public service, and accreditation must above all serve the public interest. Its goal must be to stimulate educational quality and to identify those educational institutions that are adequate for the demands of the times and the needs of the public in the future. Unless it accomplishes this goal, accreditation cannot be justified.

Like any regulatory device, accreditation can have the effect either of restricting education into conformity and subsequent obsolescence or of aiding its responsiveness and improvement. To be beneficial, those who conduct accreditation must foresee the direction that professional service should take in the next decades, and must help professional education move in this direction. As William K. Selden has said, "Accreditation improperly conducted could support professional conservatism, rigidity, and selfishness. It could prevent the introduction of new methods and it could indirectly place limits on enrollments. In contrast, accreditation properly conducted can and does provide, even with all its limitations and inadequacies, a protection for the public and an assurance to the profession. It can and does offer stimulation for continued educational improvements and it can and does indicate, sometimes after too much of a social lag, the proper direction for the education of the future members of the profession."

In the spirit of this current concept of accreditation, the intent of the Committee on Professional Education is that the accrediting process for schools of public health produce a maximum benefit and thus serve the best interests of our rapidly changing society.

To this end, the CPE will endeavor to keep the following broad objectives constantly before it for all schools of public health. Each school should:

(1) maintain high standards of public health teaching, research, and service;
(2) seek the opportunity and take the responsibility for individuality and flexibility;
(3) admit students regardless of race, creed, or national origin;
(4) point curriculum content toward the future needs of society;
(5) make more use of field training and relationships;
(6) improve and extend continuing education;
(7) evaluate the productivity of its faculty (through their teaching, research, and service roles), and the performance of its alumni—in terms of its own stated mission and objectives.

In their role of intellectual leadership in public health, schools of public health should endeavor to meet the expectations of society by preparing competent, imaginative workers for careers in preventing disease and disability, and in analyzing, improving, promoting, and maintaining the health of the public.

By continually or periodically evaluating their activities, individual schools should maintain sufficient flexibility to conduct educational experiments, to introduce periodic innovations in educational policy and methodology, and to make changes in curriculum content and emphasis when indicated.

In carrying out a complex and expanding program of teaching, research, and service, each school of public health

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* Revised by the APHA's Committee on Professional Education and approved by the Executive Board, June, 1966.

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must be an integral part of a university and also must have access to field service and community laboratories, as well as to a wide range of physical facilities and technical equipment. It should have a faculty and staff of sufficient numbers and stature with diversity of professional training and with knowledge of the physical, biological, and social sciences, including humanities.

A school of public health should establish relationships with relevant schools and disciplines in the university so as to enable it to participate appropriately in influencing curriculum development throughout the university, especially as such participation may contribute to meeting manpower needs in the total health field.

The APHA Committee on Professional Education, as the accrediting body for schools of public health, is interested in such characteristics of a school as: organization, administration, and financing; competence and balance of the faculty; adequacy of the curriculum; appropriateness and consistency of admissions requirements; supervised student field practice or laboratory experience in teaching, research, and community service; and provision for self-evaluation in terms of specific objectives of the school. It must be clearly understood, however, that the committee will evaluate these and related factors in the light of the stated purposes of each school and in relation to its expectations of accomplishment.

Allowing for wide latitude in subject emphasis and specific course content from one institution to another, the CPE expects that schools of public health will focus their attention at least on the following areas:

(a) Special health problems of the general population, e.g., environmental hazards, accidents, infectious diseases, mental illness and retardation, chronic diseases and long-term illness, disease and disability related to stress and deprivation;
(b) General health problems of special population groups, e.g., the aged, mothers and children, occupational groups;
(c) Special services for general or special populations, e.g., availability of comprehensive medical and hospital care, family life education and family planning, health education, nursing, categorical disease control, prevention of accidental injury, occupational health services, etc.
(d) General health problems of the general population, e.g., provision of comprehensive health care services, when, where, and how needed.
(e) Health resources, manpower, and economics, e.g., analyses of health facilities, means of financial support, and future estimates; assessments of health manpower characteristics and projected requirements; evaluations of the organization, delivery, and quality of health services, and systems of financing such services and their utilization.

Schools of public health should apply present knowledge about health problems by focusing on concepts, principles, and skills pertinent to: (a) effective planning; (b) organization; (c) administration; (d) evaluation; and (e) improvement of community health services. This will include full use of comprehensive medical and hospital care resources for all members of the population. The effective accomplishment of this type of community diagnosis and treatment can be greatly enhanced by using multidiscipline community health teams, particularly if all members of such teams have been well grounded in these concepts, principles, and skills. The director of a program should be an administrator prepared to conduct the program effectively with personnel of different skills and abilities.

Likewise, schools of public health should make the most of their opportunities to increase our knowledge through research. Even more than in the past, epidemiological, behavioral, and operations research should establish hypotheses, provide more precise planning of health services, and develop methodology for evaluating health care services.

Schools of public health also should

be concerned with the relative pertinence and applicability of organized community health service programs in all parts of the world.

The Committee on Professional Education recognizes that the admission of students from other countries is an opportunity and a special problem. Such students should be competent in the teaching language, and in major areas of basic knowledge.

Students from abroad should be admitted only when a school is prepared to meet a candidate's needs for assuming substantial responsibility in his home country.

I. ORGANIZATION AND ADMINISTRATION

A. University Affiliation and Accreditation

CRITERION:*

Any school of public health accredited by the American Public Health Association must be an integral part of a university which is a member of one of the regional† associations of colleges and schools.

B. Autonomy of Organization and Operation

CRITERION:

A school, faculty, or council administering courses in public health should have such practical autonomy that requirements for public health degrees are effectively determined by the public health faculty. In support of this position a descriptive statement including the following points should be prepared by the school:

1. **Identity of the school of public health within the university.**
2. **Relationship of the school of public health to the central administrative authority of the university.**
3. **Relationship with other schools or units within the university and with outside agencies.**
4. **Representation on central committees or councils that are advisory or making policy for the university.**
5. **Organization and administration of the school of public health with reference to faculty appointment, status, and organization related to the general policies of the university.**
6. **Process of preparation and administration of the budget within the school of public health.**
7. **Listing of resources and facilities.**
8. **Internal organization and administration of the school of public health.**

C. Physical Facilities

CRITERION:

Appropriate and sufficient classrooms, laboratories, libraries, and other facilities should be available to carry out both the required and elective course work.

Guidelines:

This means, for example, not only sufficient classrooms, seminar rooms, laboratories, and offices, but also accessible auditoria, libraries, reading and study rooms, data-processing equipment and services, and conveniently located administrative units of community health services available to faculty and students for observation, study, analysis, criticism, and field experience of high quality.

The availability and convenient access to adequate library facilities cannot be overemphasized as a fundamental and necessary resource for a school of public health.

D. Financing

CRITERION:

A school of public health should have an assured minimum basic income adequate for its teaching, research, and service functions, and for meeting the various criteria and its own objectives.

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* Note: *Required standards* for accreditation are presented in bold type under "CRITERIA," while general trends, suggestions, recommendations, and explanations offered as *helpful comments* are included under "Guidelines."

† Applies to U.S.A. only.

II. SCHOOL MISSION, FACULTY, AND INTERRELATIONSHIPS

A. Definition of the School's Mission, Functions, and Purposes

CRITERION:

The faculty of each school of public health should define its individual mission and formulate its statement of philosophy, objectives, and functions. Each school also should describe its own approaches to the major areas of knowledge and professional activity relevant to the health needs of communities of people. Each school will prepare a written statement which represents the consensus of its faculty, expressing its concept or philosophy of public health. Such a statement should incorporate the broad, as well as specific or unique, mission of that school, and the intermediate purposes and objectives it proposes to attain its mission.

Guidelines:

While emphases may differ from one school to another, the Committee on Professional Education expects that, in carrying out its individual self-determined mission, each school of public health will gear its program to the following purposes:

(1) to provide the broad professional education required by community health leaders who need: (a) the essential knowledge basic to the field, found in the biologic, physical, and social sciences; and (b) the mastery of skills in educational methodology necessary to apply scientific and technical health knowledge in the changing economic and political contexts of modern society;

(2) to prepare specialists in several academic and professional disciplines for service in community health agencies, and for careers in related teaching and research;

(3) to contribute to public health knowledge through the conduct of community-based health research, particularly epidemiological, behavioral, and operations research, to include an emphasis on the growing number of new health hazards, and the complex area of multiple etiology of diseases, and methods in use or proposed for their alleviation;

(4) to provide, in so far as feasible, continuing education for personnel serving in community health agencies and educational institutions, for community planners, for health leaders (at all community levels—local, state, regional, national, and international), and to the public;

(5) to provide community service, especially in the form of professional and technical consultation to individuals, groups, and communities, and through direct participation in community health diagnosis, field investigations, and planning improved comprehensive health services.

B. Stature and Number of Faculty

1. CRITERION:

The teaching of public health should be under the direction of a full-time faculty which should include, in addition to part-time appointees, at least one member of professorial grade as dean or director of the school, and at least seven other members of professorial or associate professorial grade —all being primarily responsible to the administrative authorities of the school, and carrying specific responsibilities.

Guidelines:

The relatively high faculty-student ratio thus imposed upon a small or recently established school does not necessarily need to be maintained at the same level as the school grows and student enrollment increases.

2. CRITERION:

For each subject area in which a school offers a specialty major, there should be at least one full-time faculty member, fully qualified in that particular field or specialization (for example, dental public health, health education, maternal and child health, mental health, occupational health, public health nursing, etc.).

Guidelines:

The CPE expects each school to differentiate in personnel rosters its full-time and part-time faculty members and to distinguish them from other employees of the school.

The qualifications for each member of the faculty should be determined by his education and his experience in teaching, practice, and research.

C. Faculty, University, and Agency Interrelationships

CRITERION:

A school of public health should develop and maintain appropriate cooperative and joint relationships, not only within the school and university, but also with outside educational institutions and service agencies.

Guidelines:

A school of public health will ordinarily foster extensive cooperative relationships internally among its faculty and externally with other schools and organizations, especially with local, state, and regional service agencies. Therefore, the Committee on Professional Education is interested in the extent of the following relationships as an indication of the interdisciplinary and interagency concerns of the school.

Internal

(1) *Administrative,* e.g., policy determination with regard to programing of admissions, instruction, research, and services; selection and promotion of faculty; etc.

(2) *Intradepartmental,* e.g., departmental faculty and/or staff information, planning, activities.

(3) *Interdepartmental,* e.g., joint planning and teaching of multidiscipline classes, joint committee memberships, etc.

(4) *Interprofessional,* e.g., joint research design, exchange of professional viewpoints, faculty colloquia, etc.

(5) *Intrauniversity,* e.g., joint teaching programs, joint research projects, etc., between the school of public health and other departments, colleges, or professional schools of the university.

External

(1) *Interuniversity,* e.g., joint arrangements and programs of study, teaching, or research between the school of public health and appropriate academic or professional segments of other universities, within limits of opportunity and feasibility.

(2) *Community health service agencies*—local, state, regional, national, international. Type, range, and depth of participation.

III. EDUCATIONAL PROGRAM

A. Degree Structure

CRITERION:

A school of public health must have a reasonable degree structure, which will represent and describe the broad content areas for which its faculty is responsible and which will comply with the degree standards and requirements of its parent university and graduate school.

Guidelines:

Approximately two dozen different degrees and diplomas currently are awarded by the schools of public health in the United States and Canada. Each new degree added to the list brings more confusion to the field. While simplicity is desirable, the Committee on Professional Education recognizes that a given degree may represent different admission and course requirements from school to school. A single specific degree may not be appropriate for the technological or scientific specialist on the one hand, and the broadly-based generalist (administrator) on the other. The CPE believes that these two different areas of interest should reflect: (1) a student's career goals; (2) admission requirements; (3) course of study; and (4) degree or diploma designation. Allowing for some minor differences among the universities, the committee proposes five groupings, according to these four points. This will consist of a master's level and a doctor's level in each of the two areas (technological or scientific and general or administrative), plus a fifth category to contain,

until they can be dropped, those designations which do not fit into the first four.

- (1) *Master's level*
  - (a) Public Health Specialist (or Technologist or Scientist or Specialty Consultant)
    examples — M.S.Hyg., M.S.P.H., M.S., M.A.
  - (b) Public Health Generalist (or Administrator or Program Director)
    examples—M.P.H., D.P.H.
- (2) *Doctor's level*
  - (a) Teaching or Research Specialist or Consultant
    examples—Sc.D., Dr.Sc.Hyg., Ph.D.
  - (b) Public Health Generalist (Community Planner, Coordinator, Administrator, Specialized Program Director, Teacher, Researcher)
    example—Dr.P.H.
- (3) Other (degrees, diplomas, and certificates not readily grouped into the above. Should be eliminated as soon as the changes can be made.)

B. Curriculum

CRITERION:

A school of public health should have curricula differentiated for various types of professional responsibilities.

Guidelines:

The building and revision of a school of public health curriculum is a constantly changing and never-ending task. It should represent the best efforts of the faculty to define and describe—from time to time—the school's best possible combination of total course offerings, based on the changing needs of the field and the anticipated constituency of its student body. A school's curriculum so conceived and described should be divided into general categories of courses, according to their major emphases or purposes, and the career objectives of the graduate students for whom they are designed. In this sort of categorization the total course offerings may be listed in the following groups (although these alternative groups are *not* mutually exclusive): required versus electives; practice versus research; multidisciplinary versus specialized; etc. In addition to the required courses, certain of the other courses may be designated as "required majors" (i.e., required specialty courses differing according to departmental or degree curriculum in which the student is majoring).

C. Admission and Degree Requirements

CRITERION:

Each school of public health will enforce admission and degree requirements that are appropriate to insure the realization of its own stated mission, purposes, and objectives, and that conform to the standards of the parent university and its graduate school.

(1) *Master's level* (Public Health Specialist or Scientist)—M.S.Hyg., M.S.P.H., M.S., M.A.

a. *Admission Requirements*

CRITERION:

Admission should be limited to holders of the bachelor's degree with adequate preparation in the biological, physical, or social sciences, or combinations thereof; they should meet admission standards equivalent to those required of candidates matriculating for an equivalent master of science degree in other parts of the university.

b. *Degree Requirements*

Guidelines:

Course content for master's degrees in this category varies widely, according to the particular specialty or academic emphasis involved in each instance. In spite of this wide range of actual course material, the CPE recommends that any master's degree program offered by a school of public health would include one or more substantial courses concerned with the orientation of the student to community health concepts and practices in general and introduction to the public health sciences in particular. The CPE also expects that a student would fulfill other requirements equivalent to those required of candidates for similar master's degree programs in other parts of the university.

c. *Time Requirements*

CRITERION:

In no case should the length of total courses required for these master's degrees be less than one academic year of full-time attendance.

Guidelines:

A school may require that candidates for this category of master's degrees spend two academic years for the completion of didactic, laboratory, and field studies—if such requirement is consistent with: (1) the needs of an individual student; (2) the mission and objectives of the school and the degree in question; (3) sound academic and pedagogic practice; and (4) the general pattern of practice found in other parts of the university.

(2) *Master's level* (Public Health Generalist or Administrator)—M.P.H., D.P.H.

a. *Admission Requirements*

CRITERIA:

An applicant should possess:

1. **A graduate degree, from an acceptable institution, in a discipline relevant to public health, or**
2. **A bachelor's degree, from an acceptable institution, with substantial knowledge in a discipline relevant to public health either through study or experience or a combination of these.**

Guidelines:

Matriculation for the M.P.H. degree should be based upon an applicant's *professional competence* in one of the basic disciplines relevant to public health practice. His study should be devoted to orienting his knowledge and skill to those subjects required in the comprehensive provision of community health services, as well as to appropriate advanced study in his basic professional area.

b. *Degree Requirements*

The APHA Committee on Professional Education is convinced it should not require *any particular courses of instruction* by schools of public health. This responsibility should be left to the individual schools to develop in accordance with the broad CPE criteria and guidelines and with the stated objectives and purposes of the school.

CRITERIA:

In the instance of the M.P.H. (or, in Canada, D.P.H.), however, it is appropriate that instruction in certain fields basic to public health be included as required content for every candidate for this degree. These fields of instruction to be required or competence to be demonstrated, before the M.P.H. degree is awarded, are outlined in the following fundamental areas of knowledge:

1. **The nature of man, his physical and social environment, and his personal and social interaction—as they affect his health.**
2. **The basic technics of investigation, measurement, and evaluation, including biostatistics and epidemiology.**
3. **The basic technics of administration (organization and management), particularly as applicable to comprehensive health care programs.**
4. **The economic and political setting relevant to health services.**
5. **The application of these knowledges in the promotion of community health.**

This comprehensive content may be contained within various subject area courses such as administration, biostatistics, environmental health, epidemiology, social foundations of community health, or in other required offerings

suited to the program of a particular school.

Guidelines:

In addition to subjects listed above (under CRITERIA), schools of public health also teach in many other areas, such as accident prevention, the aging population, health economics, health education and communication, health manpower, infectious diseases, international health, long-term illness, maternal and child health, medical care administration, mental retardation and mental illness, population dynamics, and research methodology.

As a general context into which these, and other, emerging subjects may be related and fitted, several schools of public health have grouped these subjects in three broad categories: (1) fundamental knowledge and concepts about man and his interaction with environment; (2) specific public health skills required for the scientific study and analysis of community health status, needs, and resources (community health "diagnosis"); and (3) principles and methodology necessary for applying and relating knowledge, concepts, and skills in solving community health problems (comprehensive health services).

Schools of public health have a major obligation to provide students with an understanding of the economic, social, and cultural bases of differences among ethnic and national groups, which affect the provision of health services. Such understanding is necessary to assist students to overcome prejudices which may prevent them from making their full contribution to the community in which they work, whether on a local, national, or international level.

c. *Time Requirements*

CRITERION:

In no case should the length of total courses required for the master of public health degree be less than one academic year of full-time attendance.

Guidelines:

Some schools of public health are extending the time for covering the M.P.H. program beyond a single academic year. Some include part or all of summer school; some, a third semester; and one has gone to two full academic years.

(3) *Doctor's level* (Teaching or Research Specialist or Consultant)* Ph.D., Sc.D., etc.

a. *Admission Requirements*

CRITERION:

A candidate must possess a master's degree in a field related to that in which he seeks admission, and must meet the requirements (if applicable in the particular university) of the graduate school.

If it is within the policy of the university to admit a baccalaureate graduate directly to a doctoral program (in this category), the school of public health may follow this pattern. In this instance the basic preparation usually included in the corresponding master's curriculum should be included in such a doctoral program.

b. *Degree Requirements*

Guidelines:

In general, the degree requirements should correspond to those set down by the university for the same, or similar, degrees in other schools, including original investigation plus a dissertation, certain academic studies, and (for certain degrees) language requirements.

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* The Criteria and Guidelines listed here must necessarily be both general and flexible because of the variation among university regulations for these degrees. In the case of the Ph.D. (and often the Sc.D.), this is almost always administered by the graduate school, though the actual work is done in a school of public health, so that the standards set down by the graduate school must be observed. In some universities, the Dr.Sc.Hyg. is administered by the school of public health, with nominal supervision by the graduate school, whereas in yet other institutions the latter is responsible for *all* degrees issued beyond the baccalaureate. The APHA does not undertake to promulgate Criteria for the degrees included in this category (No. 3).

c. *Time Requirements*

Guidelines:

In general, the time required for completion of the degree requirements should correspond to that set down by the university for the same, or similar, degrees in other schools. This will usually include full-time attendance for at least one year beyond the completion of the work for the master's degree.

Some universities permit selected doctoral degree candidates to complete their requirements in interrupted "installments"—spread out over several years. If a school of public health adopts this practice, within the regulations of the university, it should be assured that all the degree requirements are fully met before the candidate is presented for the degree.

(4) *Doctor's level* (Community Planner, Coordinator, Administrator, Teacher, Researcher)—Dr.P.H.

a. *Admission Requirements*

CRITERIA:

A candidate for admission to the Dr.P.H. program:

1. **Must hold the M.P.H. degree (or Diploma in Public Health).**

   or
2. **Must fulfill admission requirements for the M.P.H. (or D.P.H.) *and* must also have completed the basic academic requirements therefor.**
3. **He must also demonstrate (or have previously demonstrated) ability for leadership in his field, as well as for advancement of scientific knowledge.**

b. *Degree Requirements*

CRITERIA:

1. **Actual course studies, seminar participation, tutorial work, field assignments, and other individually planned learning experiences may differ considerably from one doctoral candidate to another. The Committee on Professional Education will expect, however, that all doctoral candidates will submit a dissertation or thesis—based on original investigation representing a contribution to knowledge in the art and science of public health—which will be acceptable to the authorities of the university.**
2. **Candidates for this degree also will complete any additional work equivalent to that required of similar doctoral candidates in other parts of the university, consistent with the school's stated objectives and purposes for such candidates.**

c. *Time Requirements*

CRITERION:

A candidate for this degree will complete at least one academic year of work in residence at the university—beyond the appropriate master's degree work—including advanced specialization in his particular area of academic or professional work.

Guidelines:

A school should require of a student such time for completion of his doctoral studies as is consistent with his needs and: (a) the mission and objectives of the school; (b) sound academic and pedagogical practice; and (c) the general pattern in other parts of the university.

The same conditions regarding interrupted studies are applicable as are mentioned under Ph.D., and Sc.D.

D. Exemption from Specific Courses

Guidelines:

Since the educational programs of schools of public health are designed primarily for graduate students, those entering students with previous graduate education could—in some instances—be given the opportunity to take oral or written examinations, or to use previous course transcript evidence, for their advanced placement or exemption from specific courses.

E. Jointly Planned and Operated Educational Programs

CRITERION:

Each school of public health—as consistent with its stated mission and

objectives—should develop a pattern of joint participation with other institutions and agencies in providing the kinds of teaching and learning experiences it deems appropriate for its degree candidates, faculty, and staff.

1. *Supervised Field Experience*

Guidelines:

The CPE considers supervised field experience, as part of certain degree requirements, to be generally desirable and in some cases a necessity, particularly for those students without previous public health experience. This may mean extending the school term for certain categories of students and employing more faculty to carry out the increased amount of individual "tailor-made" planning and personal supervision required to provide such field experiences effectively.

The purpose of such experience is to provide opportunity for supervised field analysis, application, and evaluation of theoretical foundations of community health practice. The time required may vary according to the experience of each candidate and the subject matter.

When supervised field training experience is established, the specific relationships of the school of public health to the field agency should be clearly defined (preferably in writing) and understood by all parties concerned.

2. *Continuing Education*

Guidelines:

The Committee on Professional Education recommends that the schools be active (jointly with field agencies) in continuing education of: (a) academicians and practitioners who hold degrees in public health; and (b) those full-time career public health professionals who do not hold graduate public health degrees, but who look to schools of public health for leadership in preparing teachers, course content, and learning experiences. It is appropriate, desirable, and realistic that operating agencies and professional associations participate *with* schools of public health in developing and operating continuing education activities.

3. *Residency Training in Community Health*

Guidelines:

What may become a trend of collaboration among schools of public health, schools of medicine, and operating agencies now is beginning in approved medical residency training programs of the various specialties of preventive medicine.

Similar patterns of jointly planned and operated programs are being explored among some schools of public health, schools of dentistry, and operating health agencies in developing accredited residencies in dental public health. This approach to public health residency training in other specialties of community health may be close at hand (e.g., veterinary public health, community mental health).

4. *Teacher Training in Public Health*

Guidelines:

In a few instances, schools of public health and related health professional schools (e.g., schools of medicine, schools of nursing) have developed joint educational programs to prepare teachers of community medicine for medical schools and teachers of public health nursing for baccalaureate nursing degree programs. As the demand grows for more teachers of community medicine, dentistry, nursing, etc., in the basic health professional schools, it would be desirable for those schools of public health that have the interest, competence, and opportunity to participate jointly in planning, organizing, and conducting such teacher-training programs in these and other aspects of community health.

Demands also are growing for schools

of public health to collaborate with leading public and voluntary health agencies to develop training programs. Training directors are needed to organize and direct programs of on-the-job training and continuing education in certain central health agencies in each state.

F. Research

CRITERION:

A school of public health should promote appropriate faculty research, and should be able to identify the extent and scope of its faculty's involvement in research in terms of: titles of research projects; names and categories of investigators; duration, amount, and sources of grants; and resulting publications. The CPE will expect that all doctor's degree candidates would individually become appropriately involved in the school's (or related) research activities.

Guidelines:

Much of the curriculum taught, and most of the health activities carried on in communities, are or will be based on the results and effects of research and organized demonstrations. Many innovating services in the areas of local health, welfare, medical care, and urban and regional planning and development are being made through research projects or planned project efforts. Therefore, research and designed demonstrations (with built-in evaluation) should be the principal method of developing and advancing the content and practice of public health.

IV. EVALUATION

Objective Self-Evaluation

CRITERION:

Schools of public health should develop various approaches to self-evaluation.

Guidelines:

Attempts at self-evaluation of a school's progress and success should be undertaken with as much objectivity as possible, keeping in mind its stated mission, objectives, and purposes. Success should be reckoned not only by the accomplishments of its faculty through research, publications, and service, but also by the fruitfulness of the careers of its graduates.

Since perhaps the general objectives and specific purposes of the schools for improved health services to people will be realized through their graduates, the CPE encourages schools to develop methods of evaluating their performance as students and attainments as alumni. Any realistic assessment of the effectiveness of their careers, over a period of time, should be considered as one step toward the development of valid and practicable methodologies in this type of evaluation.

Table 1.—*Areas and number of major organizational units in the 15 accredited schools of public health in the United States and Canada, year ending June 1967*

	Number of units
Administration, community health, community health services, health administration, health services administration, public health administration, public health practice	17
Biometry, biostatistics	13
Environmental health, environmental health sciences, environmental hygiene, environmental sanitation, environmental sciences and engineering, public health engineering, sanitary engineering	13
Epidemiology	13
Nutrition, nutritional sciences, public health nutrition	8
Health education, public health education	7
Infectious and tropical diseases, parasitology, pathobiology, tropical public health	7
Maternal and child health	6
Environmental medicine, physiological hygiene, physiology	4
Hospital administration	4
Industrial health, industrial hygiene, occupational health, occupational medicine	4
Microbiology, public health laboratory	4
Nursing, public health nursing	4
Behavioral sciences, social sciences	3
Community psychiatry, mental health, mental hygiene	3
Population and family health, population planning, population unit	3
Chronic diseases	2
Continuation education, continued education	2
Individual and community health, personal health	2
Medical care administration, medical care organization	2
Biochemistry	1
Biochemistry and nutrition	1
Demography	1
Demography and human ecology	1
Epidemiology and biometrics	1
Epidemiology and microbiology	1
Health development	1
Library	1
Maternal and child and population studies	1
Medical care and hospital administration	1
Medical records	1
Nutrition and biochemistry	1
Physical education	1
Public health and medical administration	1
Public health economics	1
Radiological science	1
Tropical medicine and international health	1

Source: Compiled from Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (year ending June 1967), mimeographed, p. 14.

Table 2.—*Applications and acceptances to all accredited schools of public health in the United States and Canada, years ending June 1961–67 for all professional categories* [1]

Year ending June	Number of schools	Number of applications	Number of acceptances	Percent acceptances	Number of admissions [2]
1961	12	1,594	1,050	65.9	....
1962	12	2,274	1,465	64.4	....
1963	12	2,376	1,545	65.0	....
1964	13	2,884	1,827	63.4	....
1965	14	3,591	2,194	61.1	....
1966	15	4,026	2,543	63.2	1,797
1967	15	4,109	2,371	57.7	1,802
Total	....	20,854	12,995	62.3	3,599

[1] Includes potential master's and doctoral candidates.

[2] Information not available for 1961–65.

Source: Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (year ending June 1967), mimeographed, p. 9.

Table 3.—*Cumulative number of applications, acceptances, and percent accepted to all accredited schools of public health in the United States and Canada, years ending June 1961 through 1967, by profession* [1]

Profession	Number of applications	Number of acceptances	Percent accepted
Physicians	4,002	3,289	82.2
Mathematicians/statisticians	757	607	80.2
Engineers	668	500	74.9
Social workers	100	61	61.0
Dentists	676	458	67.8
Biologists	131	102	77.9
Nutritionists/dietitians	717	520	72.5
Veterinarians	428	314	73.4
Nurses	2,026	1,318	65.1
Educators/health educators	2,584	1,663	64.4
Bacteriologists/laboratory scientists	604	400	66.2
Pharmacists	27	15	55.6
Sanitarians	1,566	983	62.8
Chemists/biochemists	266	152	57.1
Administrators/hospital and medical care administrators	3,927	1,351	34.4
Physicists	74	51	68.9
Physical educators	620	214	34.5
Industrial hygienists	26	14	53.8
Others	1,655	983	59.4
Total	20,854	12,995	62.3

[1] Includes potential master's and doctoral candidates.

Source: Compiled from Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (years ending June 1961 through 1967), mimeographed.

TABLE 4.—*Master's degree graduates from all accredited schools of public health in the United States and Canada, years ending June 1961 through 1967, by major program pursued*[1]

Major Program	1961	1962	1963	1964	1965	1966	1967	Total
Administration or Practice of Public Health	149	139	128	150	150	186	131	1,033
Aviation Medicine	15	22	18	19	24	29	34	161
Behavioral and Social Sciences	3	3	10	......	9	3	5	33
Biostatistics	38	33	42	44	51	56	47	311
Chronic Diseases	2	9	7	4	8	7	8	45
Dental Public Health	17	22	21	21	17	32	20	150
Environmental Health	68	79	87	104	121	96	97	652
Epidemiology	46	43	54	62	59	52	50	366
Health Education	87	73	65	109	155	136	123	748
International Health	......	......	......	......	3	10	15	28
Maternal and Child Health	20	38	29	50	51	62	78	328
Medical Care and Hospital Administration	85	100	111	132	143	138	155	864
Mental Health	17	12	13	25	15	21	20	123
Microbiology and Laboratory Public Health	24	32	40	28	34	33	44	235
Nutrition/Biochemistry	39	26	49	43	68	65	70	360
Occupational Health	26	26	33	28	32	28	29	202
Physiological Hygiene	......	......	......	......	6	5	12	23
Public Health Nursing	56	49	54	56	67	99	74	455
Radiological Science	15	23	20	21	21	18	21	139
Rehabilitation and Physical Therapy	......	......	......	......	4	5	3	12
Social Work in Public Health	......	......	......	......	3	4	9	16
Tropical Medicine/Entomology/Parasitology	17	30	27	22	32	30	41	199
Veterinary Public Health	5	5	12	15	14	12	7	70
Other	7	8	1	3	......	......	1	20
Total	736	772	821	936	1,087	1,127	1,094	6,573

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[1] Includes persons reporting as their place of permanent residence prior to enrollment either the United States, Canada, or another country.

Source: Compiled from Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (years ending June 1961 through 1967), mimeographed.

TABLE 5.—*All graduates (residing in the United States at the time of enrollment) from all accredited schools of public health in the United States, 1961–67, by profession prior to enrollment* [1]

Profession	1961	1962	1963	1964	1965	1966	1967	Total
Physicians	143	145	127	166	157	173	207	1,118
Nurses	123	62	70	74	95	140	111	675
Educators, health educators	54	49	39	46	64	76	78	406
Administrators	....	76	78	79	92	88	98	511
Bacteriologists	....	25	28	23	46	45	38	205
Statisticians	22	24	31	40	47	41	43	248
Engineers	30	29	27	44	35	32	38	235
Nutritionists	....	10	18	22	32	28	33	143
Sanitarians	43	49	47	53	64	68	40	364
Dentists	24	22	21	22	26	36	25	176
Biologists, entomologists	....	4	6	15	15	26	24	90
Chemists	....	7	12	15	15	14	17	80
Pharmacists	....	....	4	8	6	5	12	35
Social Workers	....	9	10	17	20	15	19	90
Veterinarians	14	12	21	30	29	20	16	142
Physicists	....	11	16	9	15	13	18	82
Behavioral scientists	....	7	10	10	8	10	10	55
Industrial hygienists	....	7	6	7	6	4	7	37
Physical therapists	....	....	6	10	10	12	6	44
Others	49	11	7	8	19	13	11	118
Total	502	559	584	698	801	859	851	4,854

[1] Includes doctoral graduates.

Source: Compiled from Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (years ending June 1961 through 1967), mimeographed.

TABLE 6.—*Faculty and staff members in all accredited schools of public health in the United States and Canada, for the years ending June 1961 through 1967* [1]

Year ending June	Number of schools	Full-time faculty	Full-time staff	Part-time employed in university	Part-time employed outside university	Total
1961	12	689	....	229	526	1,444
1962	12	785	....	258	594	1,637
1963	12	839	....	263	599	1,701
1964	13	882	....	268	658	1,808
1965	14	603	313	60.3	91.1	1,067.4
1966	15	663	354	64.6	100.8	1,182.4
1967	15	735	420	74.1	112.0	1,341.1

[1] The number of faculty and staff members are expressed as full-time equivalents for the years ending June 1965–67, but for previous years as a gross count. Included in this count are professors, associate professors, and assistant professors who serve full time in the school of public health, and other persons holding academic appointments prorated on the basis of the approximate proportion of time spent in instruction and related activities specifically for the graduate students enrolled in the school of public health.

Source: Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (year ending June 1967), mimeographed, p. 6.

TABLE 7.—*Subject areas taught by equivalent full-time faculty and staff in all accredited schools of public health in the United States and Canada, for the years ending June 1965 through 1967*

Subject areas	Equivalent number of faculty and staff, year ending June		
	1965	1966	1967
Administration or Practice of Public Health	78.7	91.4	103.5
Behavioral and Social Sciences	29.0	41.8	38.6
Biostatistics	100.9	102.5	101.9
Chronic Diseases	18.7	24.8	23.5
Dental Public Health	7.0	9.9	12.2
Environmental Health	80.6	87.4	87.4
Epidemiology	110.3	142.6	150.9
Health Education	41.2	47.0	52.6
International Health	18.8	27.0	31.1
Maternal and Child Health	66.4	58.0	59.9
Medical Care and Hospital Administration	97.9	110.1	158.1
Mental Health	34.6	37.6	37.0
Microbiology and Laboratory Public Health	48.6	50.0	51.1
Nutrition/Biochemistry	64.5	65.9	79.2
Occupational Health	50.4	44.2	55.2
Physiological Hygiene	32.7	35.2	38.4
Population Studies/Demography	....	21.0	49.8
Public Health Nursing	41.8	38.3	41.0
Radiological Science	36.2	33.3	41.9
Social Work in Public Health	6.3	7.4	5.7
Tropical Medicine/Entomology/Parasitology	77.2	70.5	83.1
Other subjects	25.6	36.5	39.0
Total	1,067.4	1,182.4	1,341.1

Source: Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (year ending June 1967); mimeographed, p. 7.

TABLE 8.—*Subject areas taught and profession of all full-time faculty and staff in all accredited schools of public health in the United States and Canada, year ending June 1967* [1]

Profession	Subject Areas																				
	Administration or Practice of Public Health	Behavioral Science	Biostatistics	Chronic Diseases	Environmental Health	Epidemiology	Health Education	International Health	Maternal and Child Health	Medical Care and Hospital Administration	Mental Health	Microbiology	Nutrition	Occupational Health	Physiological Hygiene	Population Studies/ Demography	Public Health Nursing	Radiological Sciences	Tropical Medicine/ Entomology/Parasitology	Other Subjects	Total
Physicians	42	1	3	12	2	72	2	18	25	31	7	12	14	16	12	17		9	23	5	323
Mathematicians/ statisticians	1		84	1		8		2	2	5					1	5			1		110
Behavioral scientists	5	35	1	5		2	1	2	6	22	9					14	1				103
Bacteriologists					4	23		3				29	1	1				2	24		87
Educators	4				1		44		3	4	1		1	1	2	1				18	80
Chemists/ biochemists					9	6							33	9	4			6	2		69
Nurses	5					1		2	5	2	5					3	35				58
Engineers	2				34					2				13	2			2			55
Biologists			1	1	6	8		1			1		1		2	1		7	25		54
Administrators/ Hospital administrators	14					1			1	34						1					51
Dietitians/ nutritionists										1			21							1	23
Social workers	2	1							6	4	1					2				6	22
Physiologists						1							2	2	11	1				1	18

Sanitarians	2				13																15
Economists	1		1							12											14
Veterinarians					2	5						3							2	1	13
Physicists					1													9		2	12
Dentists	2									2		1						1		5	11
Lawyers	1									1						1				4	7
Medical record librarians	2		1							2											5
Industrial hygienists	1				1									1							3
Accountants										2											2
Physical therapists																				2	2
Others	1			1		9				3				1	1					2	18
Total	85	37	91	20	73	136	47	28	48	127	24	45	73	44	35	46	36	36	77	47	1,155

[1] The number of full-time faculty and staff is expressed in full-time equivalents.

Source: Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (year ending June 1967), mimeographed, p. 21.

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TABLE 9.—*Income statement for 17 accredited schools of public health in the United States and Canada for the year ending June 1967*

A. Basic institutional support:	$12,749,602
1. Allocated by university	6,893,743
2. Endowments to school of public health	2,270,301
3. Tuition and fees	829,256
4. Indirect contribution (maintenance, etc.)	2,756,302
B. Teaching and training grants and contracts: [1]	13,737,357
1. Formula grants	3,654,848
2. Others from National Government	9,475,010
3. From other sources	607,499
C. Research grants and contracts:	27,661,132
1. From National Government	22,055,812
2. From other sources	5,605,320
D. Other grants and contracts:	2,197,118
1. From National Government	1,823,354
2. From other sources	373,764
E. Traineeships and fellowships:	6,176,527
1. From National Government	5,995,927
2. From other sources	180,600
F. Other budgetary items	589,342
Total	63,111,078

[1] Not including traineeships and fellowships.

Source: Troupin, J. L., American Public Health Association, Schools of Public Health in the United States and Canada (year ending June 1967), mimeographed, p. 15.

APPENDIX D

TABLE 1.—*Master's degrees granted to United States citizens by 11 schools of public health, 1961–67* [1]

School	Number	Percent
Berkeley	708	15.1
Columbia	393	8.4
Harvard	325	6.9
Hopkins	299	6.4
Michigan	801	17.2
Minnesota	544	11.6
North Carolina	659	14.1
Pittsburgh	264	5.6
Tulane	199	4.3
UCLA	323	6.9
Yale	165	3.5
Total	4,680	100.0

[1] Source: J. L. Troupin, unpublished estimates, 1969.

TABLE 2.—*Age of respondents graduating from 11 schools of public health, years 1961–67* [1]

Age	Berkeley	UCLA	Columbia	Harvard	Hopkins	Michigan	Minnesota	North Carolina	Pittsburgh	Tulane	Yale	Total
25 and under:												
Number	8	15	6	4	0	9	11	25	11	1	6	96
Percent	1.6	7.5	2.3	1.8	0.0	1.6	3.5	5.4	6.1	1.1	4.9	3.1
26 to 30:												
Number	63	50	37	29	16	84	101	124	42	8	30	584
Percent	12.3	24.9	14.4	12.8	8.9	14.9	32.1	26.8	23.3	8.5	24.6	18.7
31 to 35:												
Number	125	40	72	78	44	172	87	112	47	27	24	828
Percent	24.4	19.9	28.0	34.5	24.4	30.4	27.6	24.2	26.1	28.7	19.7	26.6
36 to 40:												
Number	117	26	49	66	45	109	49	81	32	21	21	616
Percent	22.8	12.9	19.1	29.2	25.0	19.3	15.6	17.5	17.8	22.3	17.2	19.8
41 to 45:												
Number	83	31	44	27	35	89	34	49	24	21	17	454
Percent	16.2	15.4	17.1	11.9	19.4	15.8	10.8	10.6	13.3	22.3	13.9	14.6
46 to 50:												
Number	53	19	27	15	22	52	26	36	14	7	14	285
Percent	10.3	9.5	10.5	6.6	12.2	9.2	8.3	7.8	7.8	7.4	11.5	9.1
51 to 55:												
Number	38	12	20	5	16	34	5	22	7	7	5	171
Percent	7.4	6.0	7.8	2.2	8.9	6.0	1.6	4.8	3.9	7.4	4.1	5.5
56 and over:												
Number	23	8	1	2	2	16	2	11	2	2	5	74
Percent	4.5	4.0	0.4	0.9	1.1	2.8	0.6	2.4	1.1	2.1	4.1	2.4

Nonresponses:												
Number	3	0	1	0	0	0	0	2	1	0	0	7
Percent	0.6	0.0	0.4	0.0	0.0	0.0	0.0	0.4	0.6	0.0	0.0	0.2
Total: [2]												
Number	513	201	257	226	180	565	315	462	180	94	122	3,115
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Age at time of survey, August–October 1968.

[2] Due to rounding error, totals may not add to 100.0 percent.

TABLE 3.—*Sex of respondents graduating from 11 schools of public health, years 1961–67*

Sex	Berkeley	UCLA	Columbia	Harvard	Hopkins	Michigan	Minnesota	North Carolina	Pittsburgh	Tulane	Yale	Total
Male:												
Number	340	129	186	190	133	345	212	288	126	67	88	2,104
Percent	66.3	64.2	72.4	84.1	73.9	61.1	67.3	62.3	70.0	71.3	72.1	67.5
Female:												
Number	167	72	71	35	45	215	103	172	54	26	33	993
Percent	32.6	35.8	27.6	15.5	25.0	38.1	32.7	37.2	30.0	27.7	27.0	31.9
Nonresponses:												
Number	6	0	0	1	2	5	0	2	0	1	1	18
Percent	1.2	0.0	0.0	0.4	1.1	0.9	0.0	0.4	0.0	1.1	0.8	0.6
Total: [1]												
Number	513	201	257	226	180	565	315	462	180	94	122	3,115
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Due to rounding error, tables may not add to 100.0 percent.

TABLE 4.—*Primary professional discipline prior to enrollment by major*

[Major pro

Primary professional discipline	Public Health Administration	Aviation Medicine	Behavorial Sciences	Biostatistics	Chronic Diseases, Gerontology	Dental Public Health	Environmental Health, Public Health Engineering, Sanitary Science	Epidemiology	Health Education	International Health	Maternal and Child Health
Administrator/hospital administrator	60	2	0	0	0	0	3	1	1	0	1
Bacteriologist/laboratory scientist/parasitologist	7	1	0	2	0	0	8	11	2	2	0
Biologist/entomologist/zoologist	2	0	0	3	0	0	13	2	4	0	0
Chemist/biochemist	3	0	0	3	0	1	19	0	2	0	0
Dentist	38	0	0	0	0	45	0	11	0	0	0
Dietician/nutritionist	1	0	0	0	0	0	0	0	3	0	0
Educator/teacher	5	1	0	8	0	3	7	1	54	0	0
Engineer	4	0	0	0	0	0	82	0	0	0	0
Health educator	9	0	0	0	0	0	1	0	64	0	0
Industrial hygienist	0	0	0	0	0	0	0	0	0	0	0
Mathematician/statistician/programer	4	0	0	62	0	0	1	0	2	0	0
Nurse	51	0	0	3	4	0	0	8	15	2	30
Physical therapist	22	0	0	0	3	0	0	1	6	0	2
Physicist/radiological health specialist/health physicist	1	0	0	0	0	0	2	1	0	0	0
Physiologist	0	0	0	0	0	0	1	0	1	0	0
Physician	142	92	1	9	6	0	8	101	2	10	102
Psychiatrist	6	0	3	1	0	0	0	0	0	0	0
Behavioral scientist/anthropologist	1	0	1	0	0	0	0	1	1	0	0
Behavioral scientist/psychologist	3	0	3	0	0	0	0	3	1	0	1
Behavioral scientist/sociologist	3	0	1	0	0	0	0	0	1	0	0
Behavioral scientist/Other	0	0	0	0	0	0	1	0	1	0	0
Sanitarian	41	0	0	1	2	0	140	2	17	0	0
Social worker	12	0	0	0	0	0	0	0	3	0	2
Veterinarian	5	0	0	1	0	0	8	34	0	0	0
Other	18	0	0	4	2	1	3	1	17	0	1
Nonapplicable	46	0	0	45	0	1	19	3	55	0	0
Nonresponse	2	0	0	0	0	0	4	0	3	0	0
Total respondents	486	96	9	142	17	51	320	181	257	14	139

[1] Nonrespondents are excluded from total.

program areas pursued in formal training in schools of public health, 1961–67

gram area]

Medical Care and Hospital Administration, Administrative Medicine	Mental Health	Microbiology, Laboratory Public Health	Nutrition, Biochemistry	Occupational Health, Industrial Hygiene	Physiological Hygiene, Environmental Medicine	Population Studies, Family Planning, Demography	Public Health Nursing	Radiation Health	Rehabilitation, Physical Therapy	Social Work in Public Health	Tropical Medicine, Entomology, Parasitology	Veterinary Public Health	Other	Total [1]
108	1	1	0	0	0	0	0	1	1	1	0	0	0	181
7	0	48	1	2	0	0	0	1	0	0	18	0	0	110
2	0	0	2	5	0	0	3	2	0	0	10	0	1	49
1	0	0	9	3	0	0	0	4	0	0	2	0	2	49
4	0	0	0	0	0	0	0	2	0	0	0	0	0	100
1	0	0	84	0	0	0	0	0	0	0	0	0	1	90
12	0	1	2	2	0	0	5	5	0	0	2	0	2	110
2	0	0	0	6	0	0	0	8	0	0	0	0	2	104
5	0	0	0	0	0	0	0	0	0	0	0	0	2	81
0	0	0	0	16	0	0	0	2	0	0	0	0	0	18
4	1	0	0	0	0	0	0	1	0	0	0	0	0	75
17	13	0	0	4	0	0	294	0	0	0	0	0	7	448
9	0	0	0	0	0	0	1	0	1	0	0	0	0	45
1	0	0	0	6	1	0	1	29	0	0	0	0	0	42
1	0	0	0	0	1	0	0	0	0	0	0	0	0	4
24	6	4	2	39	3	5	0	2	0	0	22	0	8	588
2	21	0	0	0	0	0	0	0	0	0	0	0	0	33
1	0	0	0	0	0	0	0	0	0	0	0	0	1	6
2	9	0	0	0	0	0	0	0	0	0	0	0	0	22
3	0	0	0	0	0	1	0	0	0	0	0	0	0	9
2	1	0	0	0	0	0	0	0	0	0	0	0	0	5
2	0	0	0	5	0	0	0	1	0	0	0	0	1	212
23	3	0	0	0	0	0	0	0	0	21	0	0	1	65
0	0	4	0	0	0	1	0	2	0	0	5	16	2	78
38	2	4	4	2	0	0	0	4	0	0	0	0	5	106
139	3	2	10	3	0	1	0	10	0	0	6	0	4	347
5	0	0	1	0	0	0	5	0	0	0	1	0	0	21
415	60	64	115	93	5	8	309	74	2	22	66	16	39	2,998

APPENDIX E

TABLE 1.—*Number of mental health courses taken at a school of public health, by number of years of professional public health experience prior to enrollment in a school of public health*

Mental health courses taken	Years of professional public health experience prior to enrollment						
	None	Less than 1 year	1 to 4 years	5 to 9 years	10 to 14 years	15 plus years	Total
None:							
Number	649	121	568	270	110	54	1,772
Percent	61.4	64.0	57.2	57.6	49.8	47.8	58.2
1 or more:							
Number	377	64	401	184	107	57	1,190
Percent	35.6	33.9	40.4	39.2	48.4	50.4	39.1
Nonresponses:							
Number	32	4	24	15	4	2	81
Percent	3.0	2.1	2.4	3.2	1.8	1.8	2.7
Total responses:							
Number	1,058	189	993	469	221	113	3,043
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 2.—*Number of mental health courses taken at a school of public health, by types of master's degrees received from schools of public health*

Mental health courses taken	Master's degrees received					
	M.P.H.	M.S.P.H.	M.S. Hygiene	M.H.A./ M.S.H.A.	Other master's	Total
None:						
Number	1,345	126	150	68	125	1,814
Percent	57.3	63.7	76.5	39.3	61.9	58.2
1 or more:						
Number	949	67	40	96	66	1,218
Percent	40.5	33.8	20.4	55.5	32.7	39.1
Nonresponses:						
Number	52	5	6	9	11	83
Percent	2.2	2.5	3.1	5.2	5.4	2.7
Total responses:						
Number	2,346	198	196	173	202	3,115
Percent	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 3.—*Views on extent to which mental health course work was concerned with psychiatry and psychology, by number of mental health courses taken at a school of public health*

Degree of concern with psychiatry and psychology	Number of mental health courses taken at a school of public health			
	1	2	3 or more	Total
Highly concerned:				
Number	282	159	151	592
Percent	41.8	51.3	64.8	48.6
Moderately concerned:				
Number	305	130	72	507
Percent	45.2	41.9	30.9	41.6
Not concerned:				
Number	34	8	0	42
Percent	5.0	2.6	0.0	3.4
No opinion:				
Number	38	8	4	50
Percent	5.6	2.6	1.7	4.1
Nonresponses:				
Number	16	5	6	27
Percent	2.4	1.6	2.6	2.3
Total responses:				
Number	675	310	233	1,218
Percent	100.0	100.0	100.0	100.0

TABLE 4.—*Views on extent to which mental health course work was concerned with public health issues, by number of mental health courses taken at a school of public health*

Degree of concern with public health issues	Number of mental health courses taken at a school of public health			
	1	2	3 or more	Total
Highly concerned:				
Number	275	173	154	602
Percent	40.7	55.8	66.1	49.4
Moderately concerned:				
Number	304	110	70	484
Percent	45.0	35.5	30.0	39.7
Not concerned:				
Number	63	15	3	81
Percent	9.3	4.9	1.3	6.7
No opinion:				
Number	19	6	2	27
Percent	2.8	1.9	0.9	2.2
Nonresponses:				
Number	14	6	4	24
Percent	2.2	1.9	1.7	2.0
Total responses:				
Number	675	310	233	1,218
Percent	100.0	100.0	100.0	100.0

TABLE 5.—*Views on extent to which mental health courses were meaningful to public health concerns, by mental health work experience prior to enrollment in a school of public health*

Degree of meaningfulness	Mental health work experience prior to enrollment		
	Yes	No	Total
Highly meaningful:			
Number	238	234	472
Percent	48.2	32.5	38.9
Moderately meaningful:			
Number	197	360	557
Percent	39.9	50.0	45.9
Not meaningful:			
Number	45	87	132
Percent	9.1	12.1	10.9
No opinion:			
Number	10	30	40
Percent	2.0	4.2	3.3
Nonresponses:			
Number	4	9	13
Percent	0.8	1.2	1.0
Total responses:			
Number	494	720	1,214
Percent	100.0	100.0	100.0

TABLE 6.—*Views on extent to which mental health courses were meaningful to public health concerns, by number of mental health courses taken in a school of public health*

Degree of meaningfulness	Number of mental health courses taken at a school of public health			
	1	2	3 or more	Total
Highly meaningful:				
Number	202	130	141	473
Percent	29.9	41.9	60.5	38.8
Moderately meaningful:				
Number	337	141	81	559
Percent	49.9	45.5	34.7	45.9
Not meaningful:				
Number	97	28	7	132
Percent	14.4	9.0	3.0	10.8
No opinion:				
Number	31	7	2	40
Percent	4.6	2.3	0.9	3.3
Nonresponses:				
Number	8	4	2	14
Percent	1.2	1.3	0.9	1.2
Total responses:				
Number	675	310	233	1,218
Percent	100.0	100.0	100.0	100.0

TABLE 7.—*Views on mental health faculty's knowledge of public health problems and approaches, by mental health work experience prior to enrollment in a school of public health*

Degree of knowledge of mental health faculty	Mental health work experience prior to enrollment		
	Yes	No	Total
Very knowledgeable:			
Number	271	336	607
Percent	54.9	46.7	50.0
Knowledgeable:			
Number	157	257	414
Percent	31.8	35.7	34.1
Not knowledgeable:			
Number	50	65	115
Percent	10.1	9.0	9.5
No opinion:			
Number	11	55	66
Percent	2.2	7.6	5.4
Nonresponses:			
Number	5	7	12
Percent	1.0	1.0	1.0
Total responses:			
Number	494	720	1,214
Percent	100.0	100.0	100.0

TABLE 8.—*Views on mental health faculty's knowledge of public health problems and approaches, by number of mental health courses taken at a school of public health*

Degree of knowledge of mental health faculty	Number of mental health courses taken at a school of public health			
	1	2	3 or more	Total
Very knowledgeable:				
Number	277	172	159	608
Percent	41.0	55.5	68.2	49.9
Knowledgeable:				
Number	273	86	57	416
Percent	40.4	27.7	24.5	34.2
Not knowledgeable:				
Number	70	33	12	115
Percent	10.4	10.6	5.2	9.4
No opinion:				
Number	46	16	4	66
Percent	6.8	5.2	1.7	5.4
Nonresponses:				
Number	9	3	1	13
Percent	1.4	1.0	0.4	1.1
Total responses:				
Number	675	310	233	1,218
Percent	100.0	100.0	100.0	100.0

Table 9.—*Views on usefulness of mental health course work in present work, by mental health work experience prior to enrollment in a school of public health*

Degree of usefulness	Mental health work experience prior to enrollment		
	Yes	No	Total
Highly useful:			
Number	194	126	320
Percent	39.3	17.5	26.4
Useful:			
Number	199	332	531
Percent	40.3	46.1	43.7
Of little use:			
Number	72	199	271
Percent	14.6	27.6	22.3
No use at all:			
Number	14	44	58
Percent	2.8	6.1	4.8
No opinion:			
Number	7	11	18
Percent	1.4	1.5	1.5
Nonresponses:			
Number	8	8	16
Percent	1.6	1.2	1.3
Total responses:			
Number	494	720	1,214
Percent	100.0	100.0	100.0

TABLE 10.—*Views on usefulness of mental health course work in present work, by number of mental health courses taken at a school of public health*

Degree of usefulness	Number of mental health courses taken at a school of public health			
	1	2	3 or more	Total
Highly useful:				
Number	115	78	128	321
Percent	17.0	25.2	54.9	26.4
Useful:				
Number	313	145	74	532
Percent	46.4	46.8	31.8	43.7
Of little use:				
Number	185	64	23	272
Percent	27.4	20.6	9.9	22.3
No use at all:				
Number	43	13	2	58
Percent	6.4	4.2	0.8	4.8
No opinion:				
Number	12	3	3	18
Percent	1.8	1.0	1.3	1.5
Nonresponses:				
Number	7	7	3	17
Percent	1.0	2.2	1.3	1.3
Total responses:				
Number	675	310	233	1,218
Percent	100.0	100.0	100.0	100.0

Table 11.—*Views on relationships of mental health issues to public health course work, by mental health work experience prior to enrollment in a school of public health*

Degree of relationship	Mental health work experience prior to enrollment		
	Yes	No	Total
Highly related:			
Number	306	349	655
Percent	31.8	16.3	21.1
Moderately related:			
Number	299	572	871
Percent	31.0	26.7	28.1
Occasionally related:			
Number	288	870	1,158
Percent	29.9	40.7	37.3
Not related:			
Number	33	152	185
Percent	3.4	7.1	6.0
No opinion:			
Number	18	146	164
Percent	1.9	6.8	5.3
Nonresponses:			
Number	19	50	69
Percent	2.0	2.4	2.2
Total responses:			
Number	963	2,139	3,102
Percent	100.0	100.0	100.0

TABLE 12.—*Views on relationships of mental health issues to public health course work, by number of mental health courses taken at a school of public health*

Degree of relationship	Number of mental health courses taken at a school of public health				
	None	1	2	3 or more	Total
Highly related:					
Number	306	140	100	97	643
Percent	16.9	20.7	32.3	41.6	21.2
Moderately related:					
Number	422	240	107	86	855
Percent	23.3	35.6	34.5	36.9	28.2
Occasionally related:					
Number	751	257	90	43	1,141
Percent	41.4	38.1	29.0	18.5	37.6
Not related:					
Number	145	24	10	3	182
Percent	8.0	3.6	3.2	1.3	6.0
No opinion:					
Number	141	13	3	4	161
Percent	7.8	1.9	1.0	1.7	5.3
Nonresponses:					
Number	49	1	0	0	50
Percent	2.6	0.1	0.0	0.0	1.7
Total responses:					
Number	1,814	675	310	233	3,032
Percent	100.0	100.0	100.0	100.0	100.0

APPENDIX F

TABLE 1.—*Coverage of mental health aspects of public health topics, by school of public health attended, 1961–67* [1]

Public health topics	Berkeley	UCLA	Columbia	Harvard	Hopkins	Michigan	Minnesota	North Carolina	Pittsburgh	Tulane	Yale	Total
Number	513	201	257	226	180	565	315	462	180	94	122	3,115
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
SOCIOENVIRONMENTAL AREA:												
Accident prevention	45.8	56.2	40.5	60.2	46.7	48.8	53.0	48.1	43.9	50.0	53.3	49.1
Air and water pollution	26.5	32.3	20.6	16.8	17.2	25.7	29.8	26.6	22.2	24.5	34.4	25.4
Alcoholism control	54.8	72.1	56.4	50.9	55.0	54.9	47.9	45.9	48.3	75.5	72.1	55.3
Chest X-ray programs	32.4	29.4	28.4	16.4	23.9	24.8	33.0	24.0	22.2	22.3	24.6	26.5
Cigarette smoking	48.0	54.7	51.4	45.6	51.7	43.4	35.6	40.3	44.4	56.4	58.2	45.9
Delinquency control	32.0	30.8	35.8	38.5	46.7	20.9	23.2	25.5	21.1	48.9	39.3	29.9
Fluoridation	43.7	59.2	46.7	49.6	31.7	45.7	48.3	51.5	38.9	33.0	50.0	46.3
Geriatric programs	46.4	66.7	65.0	37.6	57.2	57.7	61.0	43.5	47.2	72.3	69.7	54.1
Housing	43.3	56.7	37.4	29.2	28.3	41.2	40.3	37.4	28.9	30.9	55.7	39.5
Industrial health	39.0	59.2	49.0	43.4	41.7	36.5	45.4	35.1	48.3	44.7	55.7	42.6
Immunization programs	35.1	45.8	37.0	30.1	32.2	32.0	47.3	38.3	33.9	34.0	35.2	36.5
Medical quackery	31.6	44.8	33.9	24.8	21.1	35.0	34.0	23.2	25.6	27.7	40.2	31.0
Migrant health	48.9	31.3	24.1	21.7	28.3	37.0	25.4	36.6	15.6	20.2	34.4	32.8
Narcotic control	39.2	46.8	59.1	35.8	44.4	28.1	33.0	25.3	28.3	43.6	63.9	37.2
Noise abatement	32.4	40.8	19.5	31.4	31.7	36.6	39.0	26.2	28.3	14.9	36.1	31.7
Nutrition and food fads	38.4	44.3	45.1	50.4	18.3	40.5	36.8	35.5	26.1	29.8	35.2	37.8
Radiation control	23.2	31.8	28.4	22.6	25.6	24.2	32.7	29.7	35.0	22.3	30.3	27.3
Suicide prevention	51.1	65.2	44.0	54.4	53.9	42.1	47.0	37.0	32.2	62.8	62.3	47.4
Tuberculosis control	41.7	42.8	33.9	30.1	43.3	40.7	49.8	39.2	37.2	46.8	41.8	40.5

Table 1.—*Coverage of mental health aspects of public health topics, by school of public health attended, 1961–67* [1] *(continued)*

Public health topics	Berkeley	UCLA	Columbia	Harvard	Hopkins	Michigan	Minnesota	North Carolina	Pittsburgh	Tulane	Yale	Total
Number	513	201	257	226	180	565	315	462	180	94	122	3,115
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
FAMILY AND CHILD HEALTH AREA:												
Abortion	31.4	26.9	35.0	30.5	38.3	23.0	27.3	21.0	22.2	30.9	51.6	28.5
Battered child syndrome	36.8	29.9	49.0	43.8	48.9	30.4	41.6	27.7	30.6	55.3	46.7	37.1
Birth control and family planning	56.1	49.3	48.2	58.4	64.4	42.1	34.9	46.3	46.1	54.3	64.8	49.2
Classes for expectant parents	25.1	22.4	27.2	22.6	28.3	25.8	31.1	22.9	20.6	31.9	23.0	25.4
Out-of-wedlock children	33.9	23.4	35.0	34.1	38.9	28.7	38.7	26.8	25.6	40.4	45.1	32.3
Postnatal care of mothers	32.9	28.9	36.6	27.9	43.3	34.9	45.4	30.3	36.1	37.2	35.2	34.8
Pregnancy and childbirth crises	32.6	28.9	31.9	32.3	37.2	32.6	42.5	27.1	31.7	43.6	32.0	33.0
Premature births	29.6	22.9	26.5	27.9	40.0	31.2	35.2	27.5	28.9	35.1	29.5	30.0
School health programs	48.0	45.3	34.2	39.8	60.0	42.7	49.5	41.3	33.3	41.5	50.0	44.0
Sex education	37.4	34.3	38.5	30.1	41.7	31.3	32.7	35.5	16.1	42.6	47.5	34.5
Venereal disease	48.0	59.2	49.4	41.2	39.4	45.3	54.6	35.1	33.3	39.4	48.4	45.0
Well-child conferences	36.6	30.3	36.6	31.4	44.4	31.5	33.7	28.1	30.6	39.4	38.5	33.6

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[1] All percents are rounded.

APPENDIX G

TABLE 1.—*Coverage of mental health topics by school of public health attended, 1961–67* [1]

Mental health topics	Berkeley	UCLA	Columbia	Harvard	Hopkins	Michigan	Minnesota	North Carolina	Pittsburgh	Tulane	Yale	Total
Number	513	201	257	226	180	565	315	462	180	94	122	3,115
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
A. BASIC AREA												
PERSONALITY THEORY												
Importance of feelings and emotions	60.4	54.7	71.2	57.5	55.0	58.9	66.0	68.0	50.0	57.4	74.6	61.7
Individual personality dynamics	51.5	43.8	71.2	48.7	46.1	47.1	61.0	66.0	40.6	56.4	69.7	53.7
Role of conscious and unconscious factors	50.1	40.3	60.7	48.7	48.9	41.8	55.9	53.7	40.6	54.3	67.2	50.0
Survey of personality theories	31.8	21.9	42.0	31.0	30.6	22.1	40.6	36.1	26.7	39.4	50.0	32.3
SOCIALIZATION												
Infancy and the preschool period	41.3	28.4	63.8	40.7	50.6	40.5	47.3	51.1	30.6	52.1	51.6	44.8
Role of the family	50.7	50.2	63.4	56.6	60.0	51.5	52.7	61.7	40.6	64.9	66.4	55.1
INTERPERSONAL RELATIONS												
Sensitivity to behavioral and verbal cues	53.0	47.3	56.8	45.1	42.2	42.3	57.8	50.2	40.0	52.1	52.5	49.1
Small-group interaction	62.4	54.7	73.2	58.0	48.3	57.3	68.6	63.0	45.0	50.0	62.3	60.1
Understanding a client's attitudes, fears, and prejudices	64.3	52.2	62.6	57.1	52.2	54.5	62.2	59.3	51.1	59.6	60.7	58.4

TABLE 1.—*Coverage of mental health topics by school of public health attended, 1961–67 (continued)*[1]

Mental health topics	Berkeley	UCLA	Columbia	Harvard	Hopkins	Michigan	Minnesota	North Carolina	Pittsburgh	Tulane	Yale	Total
Number	513	201	257	226	180	565	315	462	180	94	122	3,115
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
B. GENERAL AREA TECHNIQUES OF MENTAL HEALTH WORK												
"Anticipatory guidance" as related to the primary prevention of mental disorders	25.1	24.4	28.0	32.3	37.2	28.0	29.8	21.2	20.6	33.0	23.0	26.8
Means of improving the mental health functioning of community care givers; e.g., clergy, police, teachers	31.6	39.8	38.1	38.1	40.6	29.7	33.3	24.7	22.8	42.6	45.1	32.8
Means of introducing innovation and change in mental health programs	29.6	32.8	37.7	36.7	33.3	25.5	24.8	18.2	24.4	34.0	36.9	28.4
Principles of consultation	40.4	25.4	31.1	31.4	28.9	38.8	34.3	40.3	34.4	40.4	19.7	35.2
Principles of interviewing	31.8	28.4	52.1	28.8	32.2	39.6	53.3	47.8	35.0	48.9	26.2	39.5
Other preventive mental health intervention techniques; e.g., community organization, mental health education, parent education, crisis intervention	48.0	52.2	55.3	46.5	48.3	47.6	52.7	45.5	32.2	47.9	50.8	48.0

Referral to special mental health facilities	29.2	41.3	45.9	35.4	47.2	37.0	41.9	27.5	28.9	51.1	45.9	36.6
ADMINISTRATION OF MENTAL HEALTH WORK												
Budget planning for mental health programs	16.6	29.9	19.5	30.1	24.4	11.0	20.3	10.2	15.0	23.4	16.4	17.6
Comprehensive community mental health centers	31.6	53.2	52.5	40.3	40.6	32.6	41.0	22.5	26.7	42.6	59.0	36.8
Coordinating interagency relationships in mental health	28.7	34.3	36.2	33.2	33.9	31.5	35.6	21.4	27.2	31.9	35.2	30.7
Distribution of mental disorders in the general population	33.7	52.7	59.5	57.5	51.1	38.1	32.1	35.5	33.3	57.4	68.0	42.7
How to develop programs for the control of mental disorders	19.3	25.4	34.6	30.5	32.2	16.3	15.9	11.9	14.4	33.0	34.4	21.3
Identification and relief of mental hazards	19.5	31.3	36.6	30.1	24.4	20.7	26.0	20.6	20.6	40.4	30.3	24.9
Mental health functions of basic community services in health, education, and welfare	41.9	55.7	53.3	42.0	44.4	41.2	43.5	30.3	34.4	44.7	53.3	42.3
Mental health medicolegal problems	18.9	29.9	31.9	36.3	22.8	12.7	27.6	10.4	24.4	28.7	31.1	21.8
Organization and delivery of mental health services	36.3	51.2	59.1	42.0	45.0	33.8	41.6	24.0	32.2	46.8	62.3	39.4
Principles of comprehensive mental health planning	23.0	37.8	47.5	32.7	32.8	24.8	28.3	19.7	23.9	34.0	53.3	29.2

TABLE 1.—*Coverage of mental health topics by school of public health attended, 1961–67 (continued)* [1]

Mental health topics	Berkeley	UCLA	Columbia	Harvard	Hopkins	Michigan	Minnesota	North Carolina	Pittsburgh	Tulane	Yale	Total
Number	513	201	257	226	180	565	315	462	180	94	122	3,115
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Role of the private sector in mental health programing and financing	19.5	30.8	30.4	23.9	18.9	17.7	22.2	10.6	16.1	24.5	28.7	20.4
State, local, and Federal mechanisms for financing mental health programs	40.4	51.7	42.8	37.6	39.4	37.5	39.0	22.1	24.4	44.7	49.2	37.2
Utilization of mental health data for program evaluation	18.9	24.9	29.2	25.7	25.6	17.0	14.6	18.2	12.2	22.3	30.3	20.3
INFORMATIONAL												
Etiological factors in mental disorders	31.4	40.3	60.7	56.2	48.9	33.8	36.5	39.0	33.3	60.6	64.8	41.6
Psychiatric registers	8.8	10.9	18.7	18.6	24.4	5.1	5.4	4.8	11.1	16.0	16.4	10.4
Public attitudes toward the mentally ill	45.2	62.7	67.7	57.5	50.6	52.6	57.8	47.8	49.4	61.7	77.9	54.4
Roles and functions of mental health specialists	29.4	47.3	48.6	37.2	35.6	33.1	40.3	26.6	31.7	47.9	50.0	35.9
Sources of epidemiological data on mental disorders	26.3	38.8	45.9	59.3	40.0	23.2	21.6	28.4	33.3	42.6	55.7	33.2
Varieties of mental disorders	28.7	44.3	67.3	48.7	41.7	34.0	40.6	38.5	37.2	60.6	63.1	41.5

C. SPECIALIZED AREA												
SECONDARY PREVENTION												
How to recognize mental disorders	15.8	25.4	40.1	26.5	27.8	25.0	34.9	22.7	18.3	47.9	32.8	26.3
Mental disorder case-finding role of public health workers	17.3	17.4	26.8	23.5	30.6	28.1	32.7	18.8	16.1	35.1	27.0	23.9
Methods for care of patients with mental disorders; e.g., psychological-psychiatric, pharmacological, milieu, or social environmental	20.9	36.8	51.8	27.9	32.8	25.3	39.7	21.9	25.0	44.7	52.5	30.7
Social breakdown syndrome	13.8	17.4	30.0	22.1	21.1	9.7	12.1	15.8	9.4	25.5	23.0	16.2
Types of mental health treatment agencies and services	41.3	55.7	56.0	40.7	46.7	40.7	48.9	29.9	33.9	55.3	55.7	43.2
TERTIARY PREVENTION												
Adjustment problems of ex-patients and their families	25.7	40.3	49.0	33.6	37.2	37.9	37.8	27.7	27.8	47.9	48.4	35.2
Psychiatric rehabilitation agencies and services	29.0	43.8	52.1	32.3	43.9	34.9	39.7	20.1	31.1	48.9	47.5	35.2
Psychiatric rehabilitation functions of public health workers	20.3	26.9	35.4	26.5	36.1	34.3	33.7	23.2	25.6	40.4	35.2	29.1

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[1] All percents are rounded.

APPENDIX H

TABLE 1.—*Views on level of interest in mental health prompted by training in a school of public health, by number of mental health courses taken at a school of public health*

Level of interest	Number of mental health courses taken at a school of public health				
	None	1	2	3 or more	Total
High interest:					
Number	173	116	91	124	504
Percent	9.5	17.2	29.4	53.2	16.6
Moderate interest:					
Number	556	324	135	77	1,092
Percent	30.7	48.0	43.5	33.0	36.0
Little interest:					
Number	838	202	67	18	1,125
Percent	46.2	29.9	21.6	7.7	37.1
No opinion:					
Number	207	23	8	9	247
Percent	11.4	3.4	2.6	3.9	8.1
Nonresponses:					
Number	40	10	9	5	64
Percent	2.2	1.5	2.9	2.2	2.2
Total responses:					
Number	1,814	675	310	233	3,032
Percent	100.0	100.0	100.0	100.0	100.0

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